EXHIBIT A

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First Named Inventor/Applicant Name:	Li Zhijian
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1	Specification	SPEC.pdf	150519 e894e53a39f3f9c4a6e380a690bba58e88505f44	no	19
Warnings:					
Information:					
2	Claims	claims.pdf	55046 3e956cb6966ac049f46cd22774d8202a1e78bc97	no	2
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4	Drawings-only black and white line drawings	FIGURES.pdf	1018034 32abe350f418bc2e95d5cca54b92373d8549b82d	no	31
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5	Application Data Sheet	ADS.pdf	188536 4f938d67d479e718e834128fd4604e8af60664ff	no	1
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7	Fee Worksheet (SB06)	fee-info.pdf	36961 d1a105c19f986c1c2b91c2edef4565c39ccbc868	no	2
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Application data sheet.

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(3) *Application information*.

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Respectfully submitted,

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Load-Reducing Massage Backpack

TECHNICAL FIELD

[001] The present invention relates to a load-reducing massage backpack in the luggage production field.

BACKGROUND OF THE UTILITY MODEL

[002] Prior backpacks are mostly of a single function without massage function. Under load for a long term, the user will inevitably suffer from backache which can only be mitigated with a separate massager. Additionally, the commercially-available massager can only massage the waist, shoulder or back alone but cannot massage these positions simultaneously. Therefore, it's highly urgent to provide a load-reducing massage backpack that can massage the waist, shoulder and back simultaneously and can support change of the massage position based on the user's demand.

SUMMARY OF THE INVENTION

[003] To overcome the defects existing in the prior backpack without massage function and in the prior commercially-available massager which can only massage the waist, shoulder or back alone but cannot massage these positions simultaneously, the present invention provides a load-reducing massage backpack, wherein an elastic fixed laminate is arranged on the backpack and an massage apparatus is arranged on the fixed laminate to massage the waist, shoulder and back. The massage apparatus which is easy and flexible for use can massage one or more positions simultaneously, can support change of the massage position based on the user's demand, and even can be removed and used separately.

[004] Technical scheme of the invention is as follows: A load-reducing massage backpack comprises the pack body and the back belt, wherein an interlayer with an upper opening is arranged on the pack body against the back, an elastic fixed laminate

is provided in the interlayer, the lower end of the fixed laminate is provided at the bottom of the interlayer and the upper end can extend out of the opening and is connected to the back belt, and a massage apparatus is arranged at one or more positions where the back of the pack body is against the waist, the fixed laminate is against the back or the back belt is against the shoulder.

[005] The load-reducing massage backpack, wherein an elastic fixed laminate is arranged in the interlayer and a massage apparatus is arranged on the fixed laminate to massage the waist, shoulder and back, can massage a plurality of positions simultaneously and can support change of the massage position based on the user's demand.

[006] The top of the fixed laminate is connected via a first limit belt to the top of the pack body so as to fix the fixed laminate and avoid discomfort due to excessive lean-back of the pack body. The fixed laminate includes the upper piece and the lower piece connected in sequence from top to down. The bottom of the lower piece is connected at the bottom of the interlayer. The upper piece is exposed beyond the opening of the interlayer. The lower piece is made of elastic material. The back belt is connected via the upper piece to the fixed laminate. The lower piece can be made of a piece of wide elastic cloth or a plurality of elastic ribbons. As the upper piece can move up and down, it is convenient to adjust the position of the massage apparatus. In the present invention, the lower piece is of the elastic design, which can generate elastic waggle similar to a shoulder pole, reduce the load and mitigate the direct impact of the back belt on the shoulder, and improve the comfort level.

[007] The bottom of the upper piece is connected via a second limit belt to the bottom of the interlayer, and the second limit belt is longer than the longitudinal length of the lower piece to limit upward and downward movement of the upper piece. The second limit belt can limit upward and downward movement of the upper piece to avoid

fracture of the lower piece under excessive load. The first limit belt and the second limit belt can be ribbon or elastic ribbon.

[008] The massage apparatus comprises at least one massage mechanism and a control circuit used to control the massage mechanism. The control circuit is also equipped with the power cable used to supply power for the control circuit and the massage mechanism. The user can connect the power cable to the self-equipped portable power supply to supply power for the control circuit and massage mechanism.

[009] The massage apparatus as defined in the present invention can also include a first power supply. Both the control circuit and the first power supply are disposed on the pack body, and the first power supply directly feeds the control circuit and the massage mechanism respectively. The first power supply can be a large-capacity battery pack, portable power supply, charger, etc.

[010] The massage mechanism can include a pair of a first massage head. The first massage head is fixed at the top left and right of the fixed laminate corresponding to both sides of the back. The massage mechanism of the structure can massage the back.

[011] The massage mechanism can also include a pair of a second massage head. The second massage head is fixed at the bottom left and right of the back of pack body corresponding to both sides of the waist. The massage mechanism of the structure can massage the waist.

[012] The massage mechanism can also include a pair of a third massage head. The third massage head is fixed at one end of the back belt close to the fixed laminate corresponding to the shoulder when the back belt is used. The massage mechanism of the structure can massage the shoulder.

[013] The massage mechanism can also use one or more of the first massage head,

second massage head and third massage head based on the user's demand.

[014] The control circuit comprises a control panel and a control circuit board used to receive the instructions from the control panel and control operation of the massage mechanism according to the instructions. The control circuit board is disposed in the pack body. The control panel mounted at any position of the pack body or back belt is connected via power cable to the control circuit board. The cost is lower for the wired control circuit.

[015] The control circuit comprises a wireless remote controller and a control circuit board used to receive the instructions from the wireless remote controller and control operation of the massage mechanism according to the instructions. The control circuit board is disposed in the pack body. The wireless remote controller is connected via radio signal to the control circuit board. The wireless remote control circuit is more convenient to use. The wireless remote controller can be infrared / Bluetooth remote controller or mobile terminal with control software or other short-wave or radio-frequency signal wireless remote controller.

[016] The pack body comprises the backpack and a pair of waist belts connected at the bottom left and right of the pack body corresponding to the waist. Both waist belts can jointly fix the load-reducing massage backpack at the waist. The waist belts can fix the backpack more securely. The control panel can also be disposed on a waist belt which is elastic. The control panel of this preferred scheme is more user-friendly.

[017] The pack body comprises the front pocket body and the back. The front pocket body is integrated via a connector with the back. Both the interlayer and the fixed laminate are disposed on the back. The front pocket body is one of front pocket body structures of different styles and purposes. The preferred scheme facilitates replacement with different front pocket bodies. The connector can be a zipper or buckle.

[018] A first storage pocket is also disposed on the pack body or back belt to place the control panel. The opening of the first storage pocket can be opened or closed with a zipper or buckle. The control panel is connected via power cable in the first storage pocket to the control circuit board in the pack body.

[019] Additionally, the control panel can also be disposed on a waist belt which is made of elastic material and which can be stretched to a position where the user can operate the control panel easily. The control panel can also be directly disposed on the back belt, waist belt, handgrip, or side or bottom of backpack. At these positions (including but not limited to), a first storage pocket can also be disposed for storage purpose.

[020] At the outer side wall of the pack body, a second storage pocket is disposed to place the first power supply. An opening disposed in the second storage pocket can expose the charger switch button to facilitate direct control of the first power supply outside the pack body without opening the backpack.

[021] The load-reducing massage backpack also includes an air inflation layer disposed in the interlayer and located between the inner wall of the interlayer and the fixed laminate. The air inflation layer can press the fixed laminate against the back after inflation. With the scheme, the massage apparatus can fit more closely with the body to achieve the optimum massage effect and reduce the load.

[022] The load-reducing massage backpack also includes a water filling layer disposed in the interlayer and located between the inner wall of the interlayer and the fixed laminate. The water filling layer can press the fixed laminate against the back after being filled with water or conducting coolant. With the scheme, the massage apparatus can fit more closely with the body to achieve the optimum massage effect, reduce the load, and even dissipate the heat.

[023] Furthermore, a heater or a cooler can also be integrated on the load-reducing massage backpack to heat the back in winter or cool the back in summer.

[024] Moreover, the removable massage apparatus disposed at the back of pack body corresponding to the waist or disposed on the fixed laminate corresponding to the back can be mounted on the pack body. The removable massage apparatus comprises a control circuit, a massage mechanism and a second power supply electrically connected to the massage mechanism. The second power supply feeds the massage mechanism and the control circuit and can be dry battery or accumulator. In the preferred scheme, the massage apparatus can be removed and then used separately. For example, the removable massage apparatus can serve as an independent massager to massage the waist or back when the user is traveling by air or by bus and is seated for rest.

[025] Furthermore, the removable massage apparatus also includes an interface that can be connected to the first power supply. When the removable massage apparatus is mounted on the pack body, the first power supply can supply power via the interface to the massage mechanism and the control circuit. Moreover, the second power supply can also be charged through the first power supply. In the scheme design, the second power supply can be kept in active state always so that the removable massage apparatus can be removed at any time and used separately.

[026] A charge interface supporting connection to the portable power supply in the pack body can be disposed on the back belt, and a Bluetooth controller with a charge interface can also be disposed. The control circuit comprises the Bluetooth controller and the control circuit board used to receive the instructions from the Bluetooth controller and control operation of the massage mechanism according to the instructions. The Bluetooth controller can receive Bluetooth signal and communicate with the mobile terminal with control software. The first power supply can also supply

power to the Bluetooth controller. In the preferred scheme, the backpack can have more functions, such as Bluetooth anti-lost, charging, connection to Phone APP, by integrating the Bluetooth controller and is thus more user-friendly.

[027] The present invention further discloses another technical scheme that can achieve the purpose of the present invention: Another load-reducing massage backpack comprises the pack body and the back belt, wherein an elastic fixed laminate is arranged at the back of the pack body, the lower end of the fixed laminate is fixed at the back bottom of the pack body and the upper end is fixed and connected to the back belt, the top of the fixed laminate is connected via a third limit belt to the top of the pack body, and a massage apparatus is arranged at one or more positions where the back of the pack body is against the waist, the fixed laminate is against the back or the back belt is against the shoulder. In the preferred scheme, the interlayer structure can be excluded to expose the fixed laminate, facilitate the maintenance, and reduce the cloth and cost.

[028] To increase the decorative aesthetics and comfort of the backpack, the load-reducing massage backpack also includes an isolation layer of which two side edges are connected to two side edges of the back of the pack body. The isolation layer is disposed at part or all of external surface of the fixed laminate and can press the fixed laminate more closely against the back of the pack body. Preferably, the isolation layer can cover the fixed laminate, making the backpack more beautiful and firm. The isolation layer can be made of plus material, EVA composite material or screen cloth material. Other structures are the same as those of the first technical scheme. The purpose of the present invention can also be achieved.

[029] Compared with the prior art, the present invention has the following advantages: 1) The load-reducing massage backpack of the disclosure is characterized in that a fixed laminate is provided in the interlayer of the pack body

and a massage apparatus is arranged at one or more positions where the back of the pack body is against the waist, the fixed laminate is against the back or the back belt is against the shoulder to massage a plurality of positions simultaneously. 2) The elastic fixed laminate is so designed that the users can adjust the massage position flexibly based on their own demands.

BRIEF DESCRIPTION OF THE DRAWINGS

[030] FIG 1 is a structural view of unlocked back belt for embodiment 1 of load-reducing massage backpack according to the present invention.

[031] FIG 2 is a structural view of a usage state for embodiment 1 of load-reducing massage backpack according to the present invention.

[032] FIG 3 is a side view for embodiment 1 of load-reducing massage backpack according to the present invention.

[033] FIG 4 is a schematic view 1 of an interlayer with air inflation layer of load-reducing massage backpack according to the present invention.

[034] FIG 5 is a schematic view 1 of an interlayer with water filling layer of load-reducing massage backpack according to the present invention.

[035] FIG 6 is a structural view of unlocked back belt for embodiment 2 of load-reducing massage backpack according to the present invention.

[036] FIG 7 is a structural view of a usage state for embodiment 2 of load-reducing massage backpack according to the present invention.

[037] FIG 8 is a structural view of unlocked back belt for embodiment 3 of load-reducing massage backpack according to the present invention.

[038] FIG 9 is a structural view of a usage state for embodiment 3 of load-reducing massage backpack according to the present invention.

[039] FIG 10 is a structural view of unlocked back belt for embodiment 4 of load-reducing massage backpack according to the present invention.

[040] FIG 11 is a structural view of a usage state for embodiment 4 of load-reducing massage backpack according to the present invention.

[041] FIG 12 is a structural view of unlocked back belt for embodiment 5 of load-reducing massage backpack according to the present invention.

[042] FIG 13 is a structural view of a usage state for embodiment 5 of load-reducing massage backpack according to the present invention.

[043] FIG 14 is a side view for embodiment 5 of load-reducing massage backpack according to the present invention.

[044] FIG 15 is a structural view of a usage state for embodiment 6 of load-reducing massage backpack according to the present invention.

[045] FIG 16 is a structural view 1 of unlocked back belt for embodiment 7 of load-reducing massage backpack according to the present invention.

[046] FIG 17 is a structural view 2 of unlocked back belt for embodiment 7 of load-reducing massage backpack according to the present invention.

[047] FIG 18 is a structural view of unlocked back belt for embodiment 8 of load-reducing massage backpack according to the present invention.

[048] FIG 19 is a structural view of a usage state for embodiment 8 of load-reducing massage backpack according to the present invention.

[049] FIG 20 is a structural view of unlocked back belt for embodiment 9 of load-reducing massage backpack according to the present invention.

[050] FIG 21 is a structural view of a usage state for embodiment 9 of load-reducing massage backpack according to the present invention.

[051] FIG 22 is a structural view of unlocked back belt for embodiment 10 of load-reducing massage backpack according to the present invention.

[052] FIG 23 is a structural view of a usage state for embodiment 10 of load-reducing massage backpack according to the present invention.

[053] FIG 24 is a structural view of unlocked back belt for embodiment 11 of load-reducing massage backpack according to the present invention.

[054] FIG 25 is a structural view of a usage state for embodiment 11 of load-reducing massage backpack according to the present invention.

[055] FIG 26 is a structural view of unlocked back belt for embodiment 12 of load-reducing massage backpack according to the present invention.

[056] FIG 27 is a structural view of a usage state for embodiment 12 of load-reducing massage backpack according to the present invention.

[057] FIG 28 is a side view for embodiment 12 of load-reducing massage backpack according to the present invention.

[058] FIG 29 is a structural view of a usage state for embodiment 13 of load-reducing massage backpack according to the present invention.

[059] FIG 30 is a structural view 1 of unlocked back belt for embodiment 14 of load-reducing massage backpack according to the present invention.

[060] FIG 31 is a structural view 2 of unlocked back belt for embodiment 14 of load-reducing massage backpack according to the present invention.

[061] Label Declaration: Pack Body 1, Fixed Laminate 2, Back Belt 3, Control Circuit 4, First Power Supply 5, First Massage Head 6, Second Massage Head 7, Second Ribbon 8, Third Massage Head 9, Connector 10, Front Pocket Body 11, Back 12, Third Ribbon 13, First Storage Pocket 14, Second Power Supply 15, Second Storage

Pocket 16, Air Inflation Layer 17, Bluetooth Controller 18, Water Filling Layer 19, Isolation Layer 20, First Limit Belt 21, Interface 22, Interlayer 1-1, Waist Belt 1-2, Backpack 1-3, Upper Piece 2-1, Lower Piece 2-2, Control Panel 4-1, Control Circuit Board 4-2, Wireless Remote Controller 4-3, Opening 16-1.

DETAILED DESCRIPTION OF THE INVENTION

[062] The technical scheme to the present invention will now be further detailed in combination with the drawings 1-31 of the specifications. Embodiment 1. As shown in FIG 1 - FIG 5, the present invention relates to a load-reducing massage backpack, comprising the pack body (1) and the back belt (3), characterized in that an interlayer (1-1) with an upper opening is arranged on the pack body (1) against the back, an elastic fixed laminate (2) is provided in the interlayer (1-1), the lower end of the fixed laminate (2) is provided at the bottom of the interlayer (1-1), the upper end can extend out of the opening and is connected to the back belt (3), and a massage apparatus is arranged at one or more positions where the back of the pack body (1) is against the waist, the fixed laminate (2) is against the back or the back belt (3) is against the shoulder.

[063] The top of the fixed laminate (2) is also connected via the first limit belt (21) to the top of the pack body (1). The fixed laminate (2) includes the upper piece (2-1) and the lower piece (2-2) connected in sequence from top to down, the bottom of the lower piece (2-2) is connected at the bottom of the interlayer (1-1), the upper piece (2-1) is exposed beyond the opening of the interlayer (1-1), the lower piece (2-2) is made of elastic material, and the back belt (3) is connected via the upper piece (2-1) to the fixed laminate (2).

[064] The bottom of the upper piece (2-1) is connected via a second limit belt (8) to the bottom of the interlayer (1-1), and the second limit belt (8) is longer than the longitudinal length of the lower piece (2-2) to limit upward and downward movement of

the upper piece (2-1).

[065] The massage apparatus comprises at least one massage mechanism and a control circuit (4) used to control the massage mechanism. The control circuit (4) is also equipped with the power cable used to supply power for the control circuit (4) and the massage mechanism.

[066] The massage apparatus also includes a first power supply (5). Both the control circuit (4) and the first power supply (5) are provided on the pack body (1), and the first power supply (5) feeds the control circuit (4) and the massage mechanism respectively.

[067] The massage mechanism includes at least a first massage head (6). The first massage head (6) is fixed at the top of the fixed laminate (2) corresponding to the back.

[068] The massage mechanism includes at least a second massage head (7). The second massage head (7) is fixed at the back bottom of the pack body (1) corresponding to the waist.

[069] The massage mechanism includes at least a third massage head (9). The third massage head (9) is fixed at one end of the back belt (3) close to the fixed laminate (2) corresponding to the shoulder when the back belt (3) is used.

[070] The control circuit (4) comprises a control panel (4-1) and a control circuit board (4-2) used to receive the instructions from the control panel (4-1) and control operation of the massage mechanism according to the instructions. The control circuit board (4-2) is disposed in the pack body (1). The control panel (4-1) mounted at any position of the backpack is connected via power cable to the control circuit board (4-2).

[071] The pack body (1) comprises a backpack (1-3) and a waist belt (1-2) connected at the bottom left and right of the backpack (1-3) corresponding to the waist.

The waist belts (1-2) can jointly fix the backpack at the waist. The pack body (1) comprises the front pocket body (11) and the back (12). The front pocket body (11) is integrated via a connector (10) with the back (12). Both the interlayer (1-1) and the fixed laminate (2) are disposed on the back (12). The front pocket body (11) is one of front pocket body structures of different styles and purposes.

[072] The control panel (4-1) is disposed on the waist belt (1-2) connected at the bottom left and right of the pack body (1) corresponding to the waist. The waist belt is made of elastic stretchable material.

[073] A second storage pocket (16) is disposed at the outer side wall of the pack body to place the first power supply (5). An opening (16-1) is arranged in the second storage pocket (16) to expose the switch button of the first power supply (5). The load-reducing massage backpack also includes an air inflation layer (17) or a water filling layer (19) arranged behind the fixed laminate (2). The air inflation layer (17) or a water filling layer (19) can press the fixed laminate (2) against the back after inflation or filling.

[074] The load-reducing massage backpack may also integrates a heater or cooler. Embodiment 2. As shown in FIG 6 - FIG 7, the embodiment differs from embodiment 1 in that: The control circuit (4) comprises a wireless remote controller (4-3) and a control circuit board (4-2) used to receive the instructions from the wireless remote controller (4-3) and control operation of the massage mechanism according to the instructions. The control circuit board (4-2) is disposed in the pack body (1). The wireless remote controller (4-3) is connected via radio signal to the control circuit board (4-2). The wireless remote controller (4-3) is a mobile terminal with control software.

[075] Embodiment 3. As shown in FIG 8 - FIG 9, the embodiment differs from embodiment 1 in that: The control circuit (4) comprises a wireless remote controller (4-3) and a control circuit board (4-2) used to receive the instructions from the wireless remote controller (4-3) and control operation of the massage mechanism according to

the instructions. The control circuit board (4-2) is disposed in the pack body (1). The wireless remote controller (4-3) is connected via radio signal to the control circuit board (4-2).

[076] The wireless remote controller (4-3) is an infrared or a Bluetooth remote controller. The wireless remote controller (4-3) is disposed on the waist belt (1-2) connected at the bottom left and right of the pack body (1) corresponding to the waist.

[077] Embodiment 4. As shown in FIG 10 - FIG 11, the embodiment differs from embodiment 1 in that: The control circuit (4) comprises a wireless remote controller (4-3) and a control circuit board (4-2) used to receive the instructions from the wireless remote controller (4-3) and control operation of the massage mechanism according to the instructions. The control circuit board (4-2) is disposed in the pack body (1). The wireless remote controller (4-3) is connected via radio signal to the control circuit board (4-2).

[078] The wireless remote controller (4-3) is an infrared or a Bluetooth remote controller. A first storage pocket (14) is disposed on the back belt to place the control panel (4-1). The opening of the first storage pocket (14) can be opened or closed with a zipper or buckle. The control panel (4-1) is connected to the control circuit board (4-2) in the pack body (1) by passing through the first storage pocket (14).

[079] Embodiment 5. As shown in FIG 12 - FIG 14, the embodiment differs from embodiment 1 in that: The control circuit (4) comprises a wireless remote controller (4-3) and a control circuit board (4-2) used to receive the instructions from the wireless remote controller (4-3) and control operation of the massage mechanism according to the instructions. The control circuit board (4-2) is disposed in the pack body (1). The wireless remote controller (4-3) is connected via radio signal to the control circuit board (4-2).

[080] The wireless remote controller (4-3) is an infrared or a Bluetooth remote controller. A first storage pocket (14) is disposed on the pack body to place the control panel (4-1). The opening of the first storage pocket (14) can be opened or closed with a zipper or buckle. The control panel (4-1) is connected to the control circuit board (4-2) in the pack body (1) by passing through the first storage pocket (14).

[081] Embodiment 6. As shown in FIG 15, the embodiment differs from embodiment 1 in that: A Bluetooth controller (18) with a charge interface is disposed on the back belt. The control circuit (4) comprises the Bluetooth controller (18) and the control circuit board (4-2) used to receive the instructions from the Bluetooth controller (18) and control operation of the massage mechanism according to the instructions. The Bluetooth controller (18) can receive Bluetooth signal and communicate with the mobile terminal with control software.

[082] Embodiment 7. As shown in FIG 16 - FIG 17, the embodiment differs from embodiment 1 in that: The removable massage apparatus disposed at the back of pack body (1) corresponding to the waist or disposed on the fixed laminate (2) corresponding to the back can be mounted on the pack body (1). The removable massage apparatus comprises a control circuit (4), a massage mechanism and a second power supply (15) electrically connected to the massage mechanism. The second power supply (15) feeds the massage mechanism and the control circuit (4) and can be dry battery or accumulator.

[083] The removable massage apparatus also includes an interface (22) that can be connected to the first power supply (5). When the removable massage apparatus is mounted on the pack body, the first power supply (5) can supply power via the interface (22) to the massage mechanism and the control circuit (4).

[084] Embodiment 8. As shown in FIG 18 - FIG 19, the present invention relates to a load-reducing massage backpack which differs from embodiment 1 in that: The load-

reducing massage backpack comprises the pack body (1) and the back belt (3), wherein an elastic fixed laminate (2) is disposed at the back of the pack body (1), the lower end of the fixed laminate (2) is fixed at the back bottom of the pack body (1) and the upper end is fixed and connected to the back belt (3), the top of the fixed laminate (2) is connected via a third limit belt (13) to the top of the pack body (1), and a massage apparatus is arranged at one or more positions where the back of the pack body (1) is against the waist, the fixed laminate (2) is against the back or the back belt (3) is against the shoulder.

[085] The load-reducing massage backpack also includes an isolation layer (20) of which two side edges are connected to two side edges of the back of the pack body (1). The isolation layer (20) is disposed at part or all of external surface of the fixed laminate (2) and can press the fixed laminate (2) more closely against the back of the pack body (1).

[086] Embodiment 9. As shown in FIG 20 - FIG 21, the embodiment differs from embodiment 2 in that: The load-reducing massage backpack comprises the pack body (1) and the back belt (3), wherein an elastic fixed laminate (2) is disposed at the back of the pack body (1), the lower end of the fixed laminate (2) is fixed at the back of the pack body (1) and the upper end is fixed and connected to the back belt (3), the top of the fixed laminate (2) is connected via a third limit belt (13) to the top of the pack body (1), and a massage apparatus is arranged at one or more positions where the back of the pack body (1) is against the waist, the fixed laminate (2) is against the back or the back belt (3) is against the shoulder.

[087] The load-reducing massage backpack also includes an isolation layer (20) of which two side edges are connected to two side edges of the back of the pack body (1). The isolation layer (20) is disposed at part or all of external surface of the fixed laminate (2) and can press the fixed laminate (2) more closely against the back of the

pack body (1).

[088] Embodiment 10. As shown in FIG 22 - FIG 23, the embodiment differs from embodiment 3 in that: The load-reducing massage backpack comprises the pack body (1) and the back belt (3), wherein an elastic fixed laminate (2) is disposed at the back of the pack body (1), the lower end of the fixed laminate (2) is fixed at the back of the pack body (1) and the upper end is fixed and connected to the back belt (3), the top of the fixed laminate (2) is connected via a third limit belt (13) to the top of the pack body (1), and a massage apparatus is arranged at one or more positions where the back of the pack body (1) is against the waist, the fixed laminate (2) is against the back or the back belt (3) is against the shoulder.

[089] The load-reducing massage backpack also includes an isolation layer (20) of which two side edges are connected to two side edges of the back of the pack body (1). The isolation layer (20) is disposed at part or all of external surface of the fixed laminate (2) and can press the fixed laminate (2) more closely against the back of the pack body (1).

[090] Embodiment 11. As shown in FIG 24 - FIG 25, the embodiment differs from embodiment 4 in that: The load-reducing massage backpack comprises the pack body (1) and the back belt (3), wherein an elastic fixed laminate (2) is disposed at the back of the pack body (1), the lower end of the fixed laminate (2) is fixed at the back of the pack body (1) and the upper end is fixed and connected to the back belt (3), the top of the fixed laminate (2) is connected via a third limit belt (13) to the top of the pack body (1), and a massage apparatus is arranged at one or more positions where the back of the pack body (1) is against the waist, the fixed laminate (2) is against the back or the back belt (3) is against the shoulder.

[091] The load-reducing massage backpack also includes an isolation layer (20) of which two side edges are connected to two side edges of the back of the pack body

(1). The isolation layer (20) is disposed at part or all of external surface of the fixed laminate (2) and can press the fixed laminate (2) more closely against the back of the pack body (1).

[092] Embodiment 12. As shown in FIG 26 - FIG 28, the embodiment differs from embodiment 5 in that: The load-reducing massage backpack comprises the pack body (1) and the back belt (3), wherein an elastic fixed laminate (2) is disposed at the back of the pack body (1), the lower end of the fixed laminate (2) is fixed at the back of the pack body (1) and the upper end is fixed and connected to the back belt (3), the top of the fixed laminate (2) is connected via a third limit belt (13) to the top of the pack body (1), and a massage apparatus is arranged at one or more positions where the back of the pack body (1) is against the waist, the fixed laminate (2) is against the back or the back belt (3) is against the shoulder.

[093] The load-reducing massage backpack also includes an isolation layer (20) of which two side edges are connected to two side edges of the back of the pack body (1). The isolation layer (20) is disposed at part or all of external surface of the fixed laminate (2) and can press the fixed laminate (2) more closely against the back of the pack body (1).

[094] Embodiment 13. As shown in FIG 29, the embodiment differs from embodiment 6 in that: The load-reducing massage backpack comprises the pack body (1) and the back belt (3), wherein an elastic fixed laminate (2) is disposed at the back of the pack body (1), the lower end of the fixed laminate (2) is fixed at the back bottom of the pack body (1) and the upper end is fixed and connected to the back belt (3), the top of the fixed laminate (2) is connected via a third limit belt (13) to the top of the pack body (1), and a massage apparatus is arranged at one or more positions where the back of the pack body (1) is against the waist, the fixed laminate (2) is against the back or the back belt (3) is against the shoulder.

[095] The load-reducing massage backpack also includes an isolation layer (20) of which two side edges are connected to two side edges of the back of the pack body (1). The isolation layer (20) is disposed at part or all of external surface of the fixed laminate (2) and can press the fixed laminate (2) more closely against the back of the pack body (1).

[096] Embodiment 14. As shown in FIG 30 - FIG 31, the embodiment differs from embodiment 7 in that: The load-reducing massage backpack comprises the pack body (1) and the back belt (3), wherein an elastic fixed laminate (2) is disposed at the back of the pack body (1), the lower end of the fixed laminate (2) is fixed at the back of the pack body (1) and the upper end is fixed and connected to the back belt (3), the top of the fixed laminate (2) is connected via a third limit belt (13) to the top of the pack body (1), and a massage apparatus is arranged at one or more positions where the back of the pack body (1) is against the waist, the fixed laminate (2) is against the back or the back belt (3) is against the shoulder.

[097] The load-reducing massage backpack also includes an isolation layer (20) of which two side edges are connected to two side edges of the back of the pack body (1). The isolation layer (20) is disposed at part or all of external surface of the fixed laminate (2) and can press the fixed laminate (2) more closely against the back of the pack body (1).

[098] The present invention is not limited to the above embodiments. Any improvement or substitution based on the principle of the present invention shall be within the scope of protection of the present invention.

1. The utility model relates to a load-reducing massage backpack, comprising a pack body and a shoulder strap, an interlayer with an upper opening is arranged on the pack body against the back, an elastic fixed laminate is provided in the interlayer, the lower end of the elastic fixed laminate is provided at the bottom of the interlayer, an upper end extends out of the opening and is connected to the shoulder strap, and a massage apparatus is arranged at one or more positions where a back of the pack body is against the waist, the fixed laminate is against the back or the shoulder strap is against the shoulder.

2. A load-reducing massage backpack as claimed in Claim 1, wherein a top of the elastic fixed laminate is also connected by a first limit belt to a top of the pack body.

3. A load-reducing massage backpack as claimed in Claim 1, wherein the elastic fixed laminate further includes an upper piece and a lower piece connected in sequence from top to down, a bottom of the lower piece is connected at a bottom of the interlayer, the upper piece is exposed beyond the opening of the interlayer, the lower piece is made of elastic material, and the shoulder strap is connected by the upper piece to the elastic fixed laminate.

4. A load-reducing massage backpack as claimed in Claim 3, wherein the bottom of the upper piece is connected by the second limit belt to the bottom of the interlayer, and the second limit belt is longer than the longitudinal length of the lower piece to limit upward and downward movement of the upper piece.

5. A load-reducing massage backpack as claimed in Claim 1, wherein the massage apparatus comprises at least one massage mechanism and a control circuit used to control the massage mechanism, and the control circuit is also equipped with the power cable used to supply power for the control circuit and the massage mechanism.

6. A load-reducing massage backpack as claimed in Claim 5, wherein the massage apparatus also includes a first power supply, both the control circuit and the first power supply are provided on the pack body, and the first power supply feeds the control circuit and

the massage mechanism respectively.

7. A load-reducing massage backpack as claimed in Claim 5, wherein the massage mechanism includes at least a first massage head, and the first massage head is fixed at the top of the elastic fixed laminate corresponding to the back.

8. A load-reducing massage backpack as claimed in Claim 5, wherein the massage mechanism includes at least a second massage head, and the second massage head is fixed at the back bottom of the pack body corresponding to the waist.

9. A load-reducing massage backpack as claimed in Claim 5, wherein the massage mechanism includes at least a third massage head, and the third massage head is fixed at one end of the shoulder strap close to the elastic fixed laminate corresponding to the shoulder when the shoulder strap is used.

10. A load-reducing massage backpack as claimed in Claim 5, wherein the control circuit comprises a control panel and a control circuit board used to receive the instructions from the control panel and control operation of the massage mechanism according to the instructions, the control circuit board is disposed in the pack body, and the control panel mounted at any position of the backpack is connected via power cable to the control circuit board.

ABSTRACT

A load-reducing massage backpack comprising the pack body and the back belt. An interlayer with an upper opening is arranged on the pack body against the back, an elastic fixed laminate is provided in the interlayer, the lower end of the fixed laminate is provided at the bottom of the interlayer and the upper end can extend out of the opening and is connected to the back belt, and the back of the pack body is against the waist and the massage apparatus. The present invention overcomes the defects existing in the prior backpack without massage function and in the prior massagers which only massage the waist, shoulder or back alone but cannot massage these positions simultaneously. An elastic fixed laminate is arranged on the backpack and a massage apparatus is disposed on the fixed laminate to massage the waist, shoulder and back. The massage apparatus is easy, flexible and can massage one or more positions simultaneously, support change of the massage position based on the user's demand, and be removed and used separately.

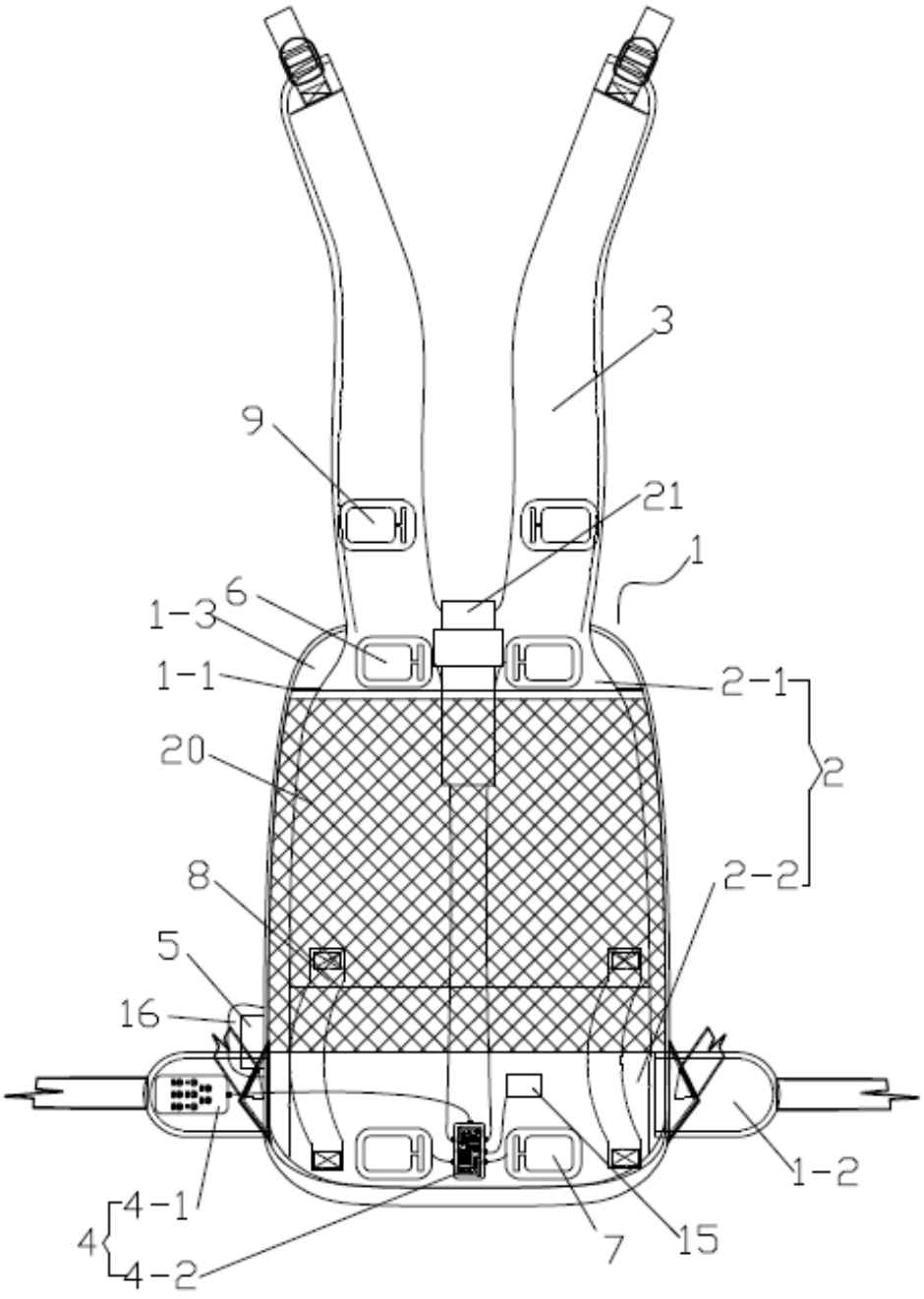


FIG 1

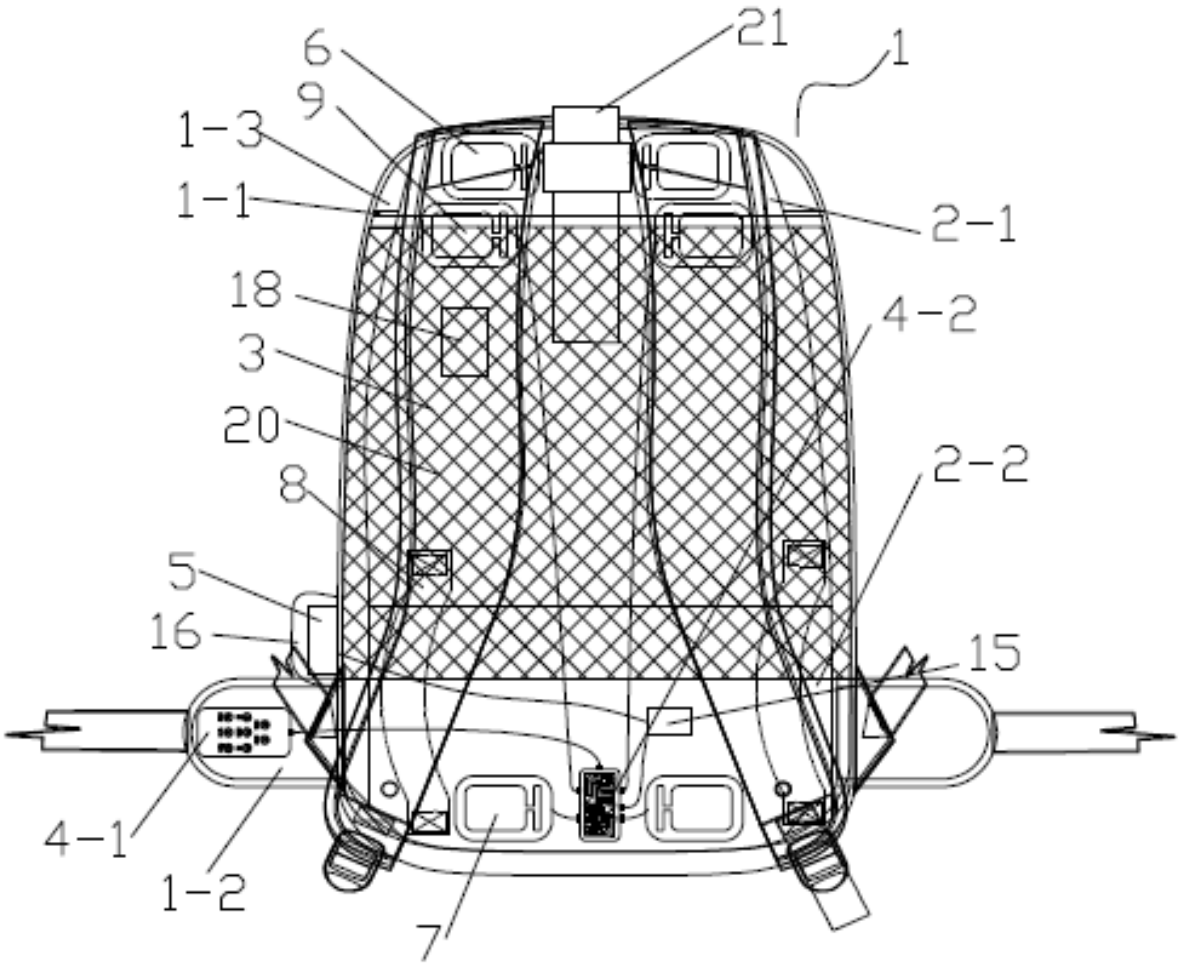


FIG 2

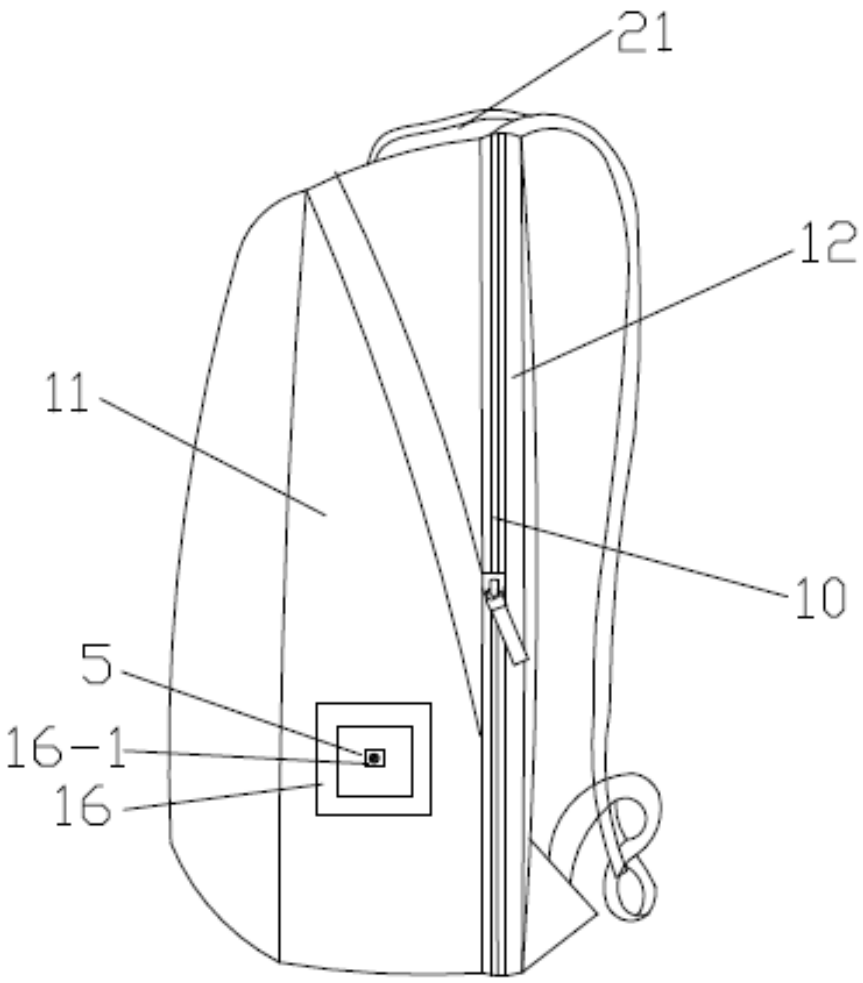


FIG 3

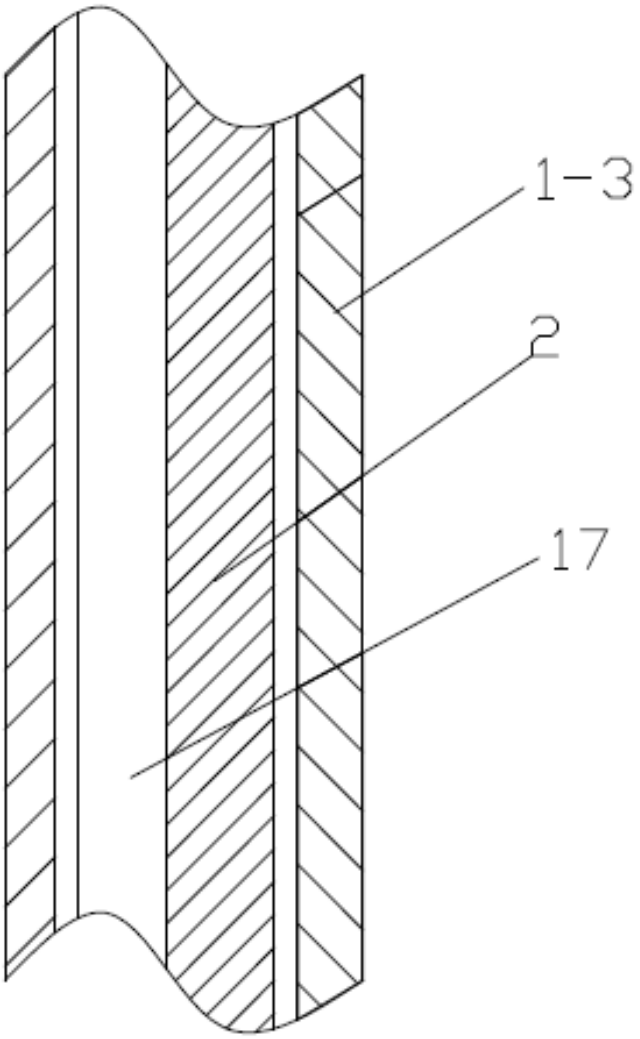


FIG 4

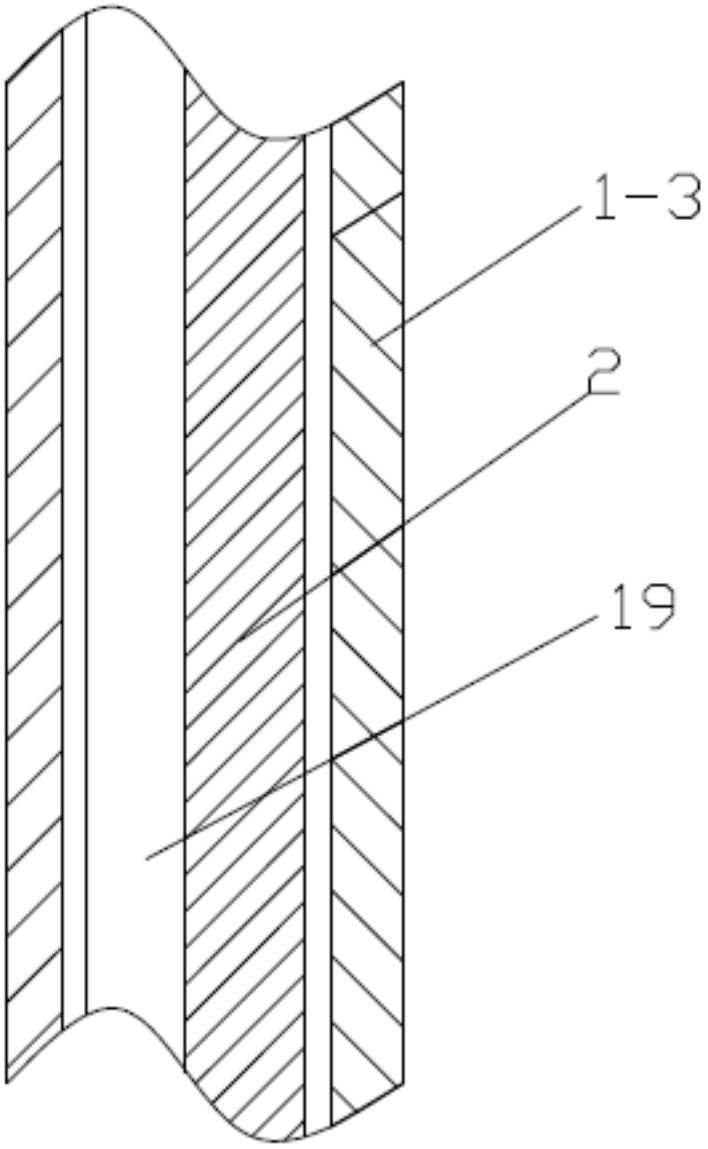


FIG 5

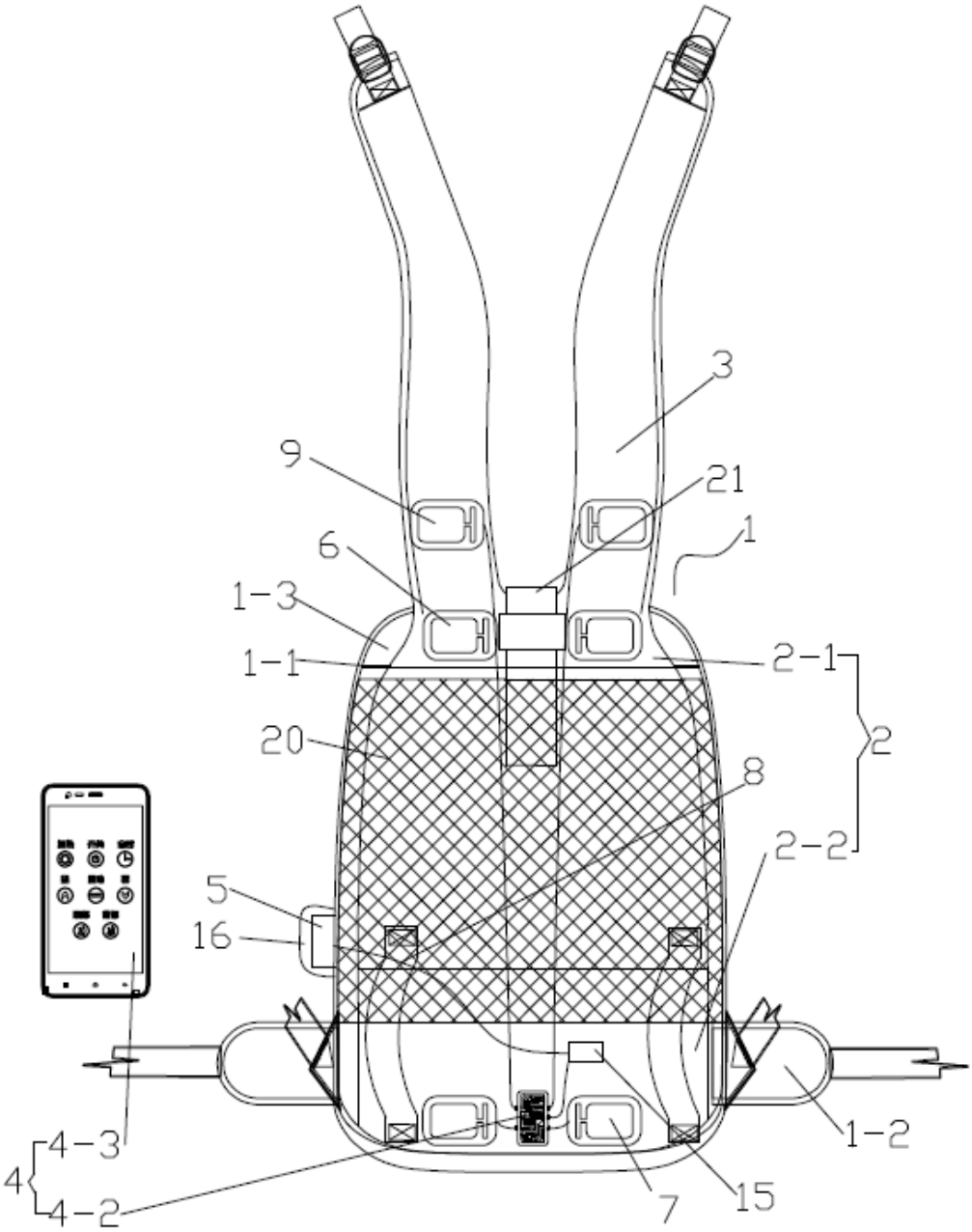


FIG 6

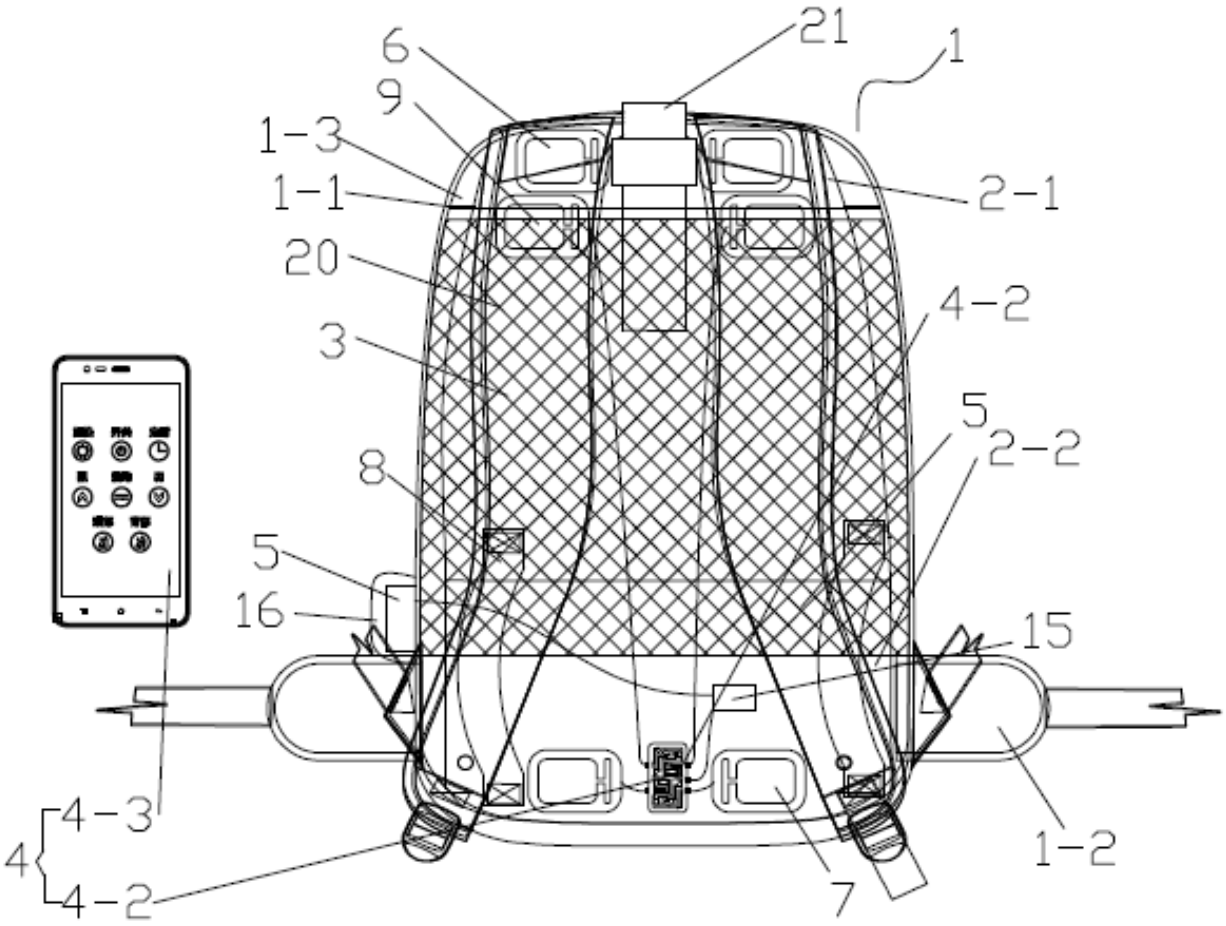


FIG 7

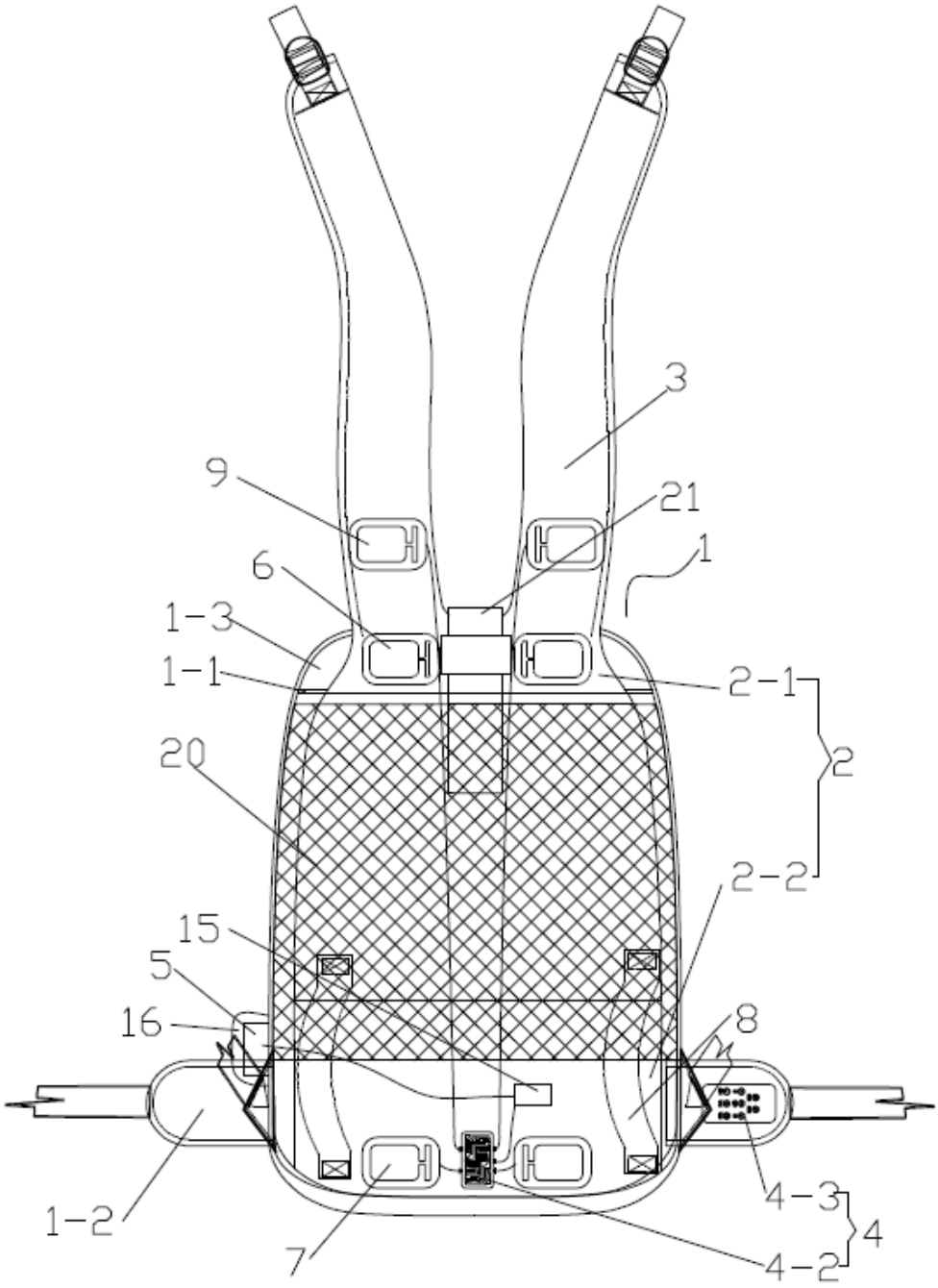


FIG 8

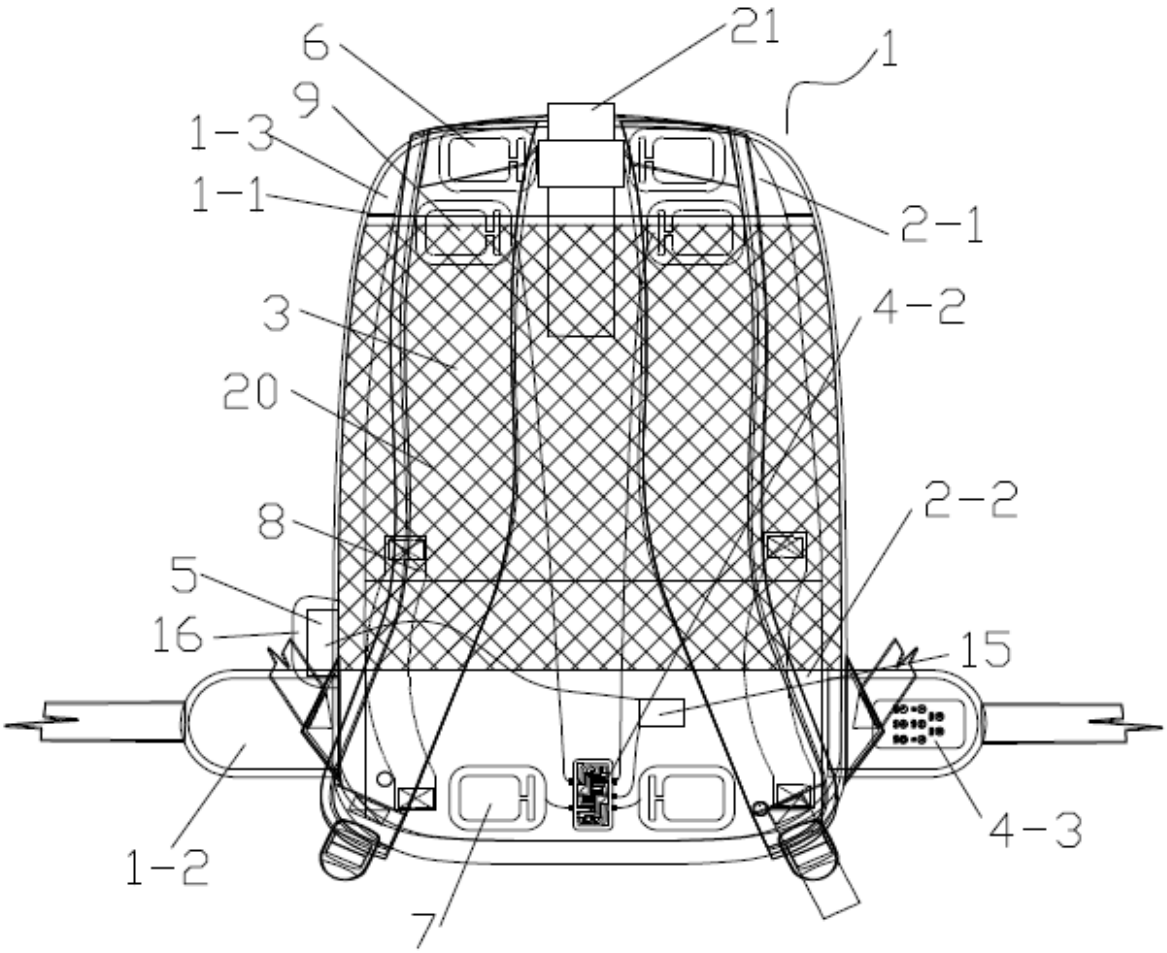


FIG 9

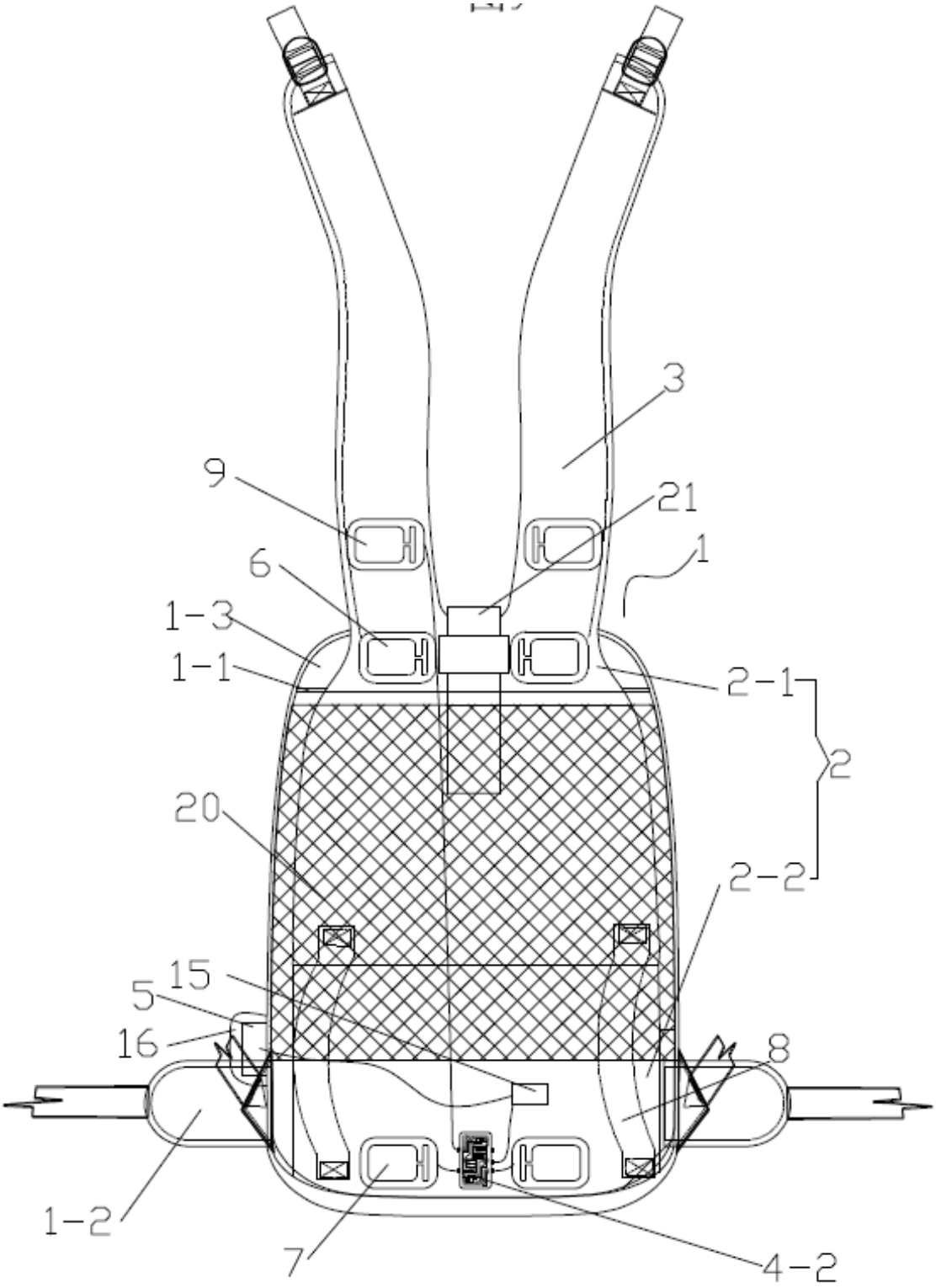


FIG 10

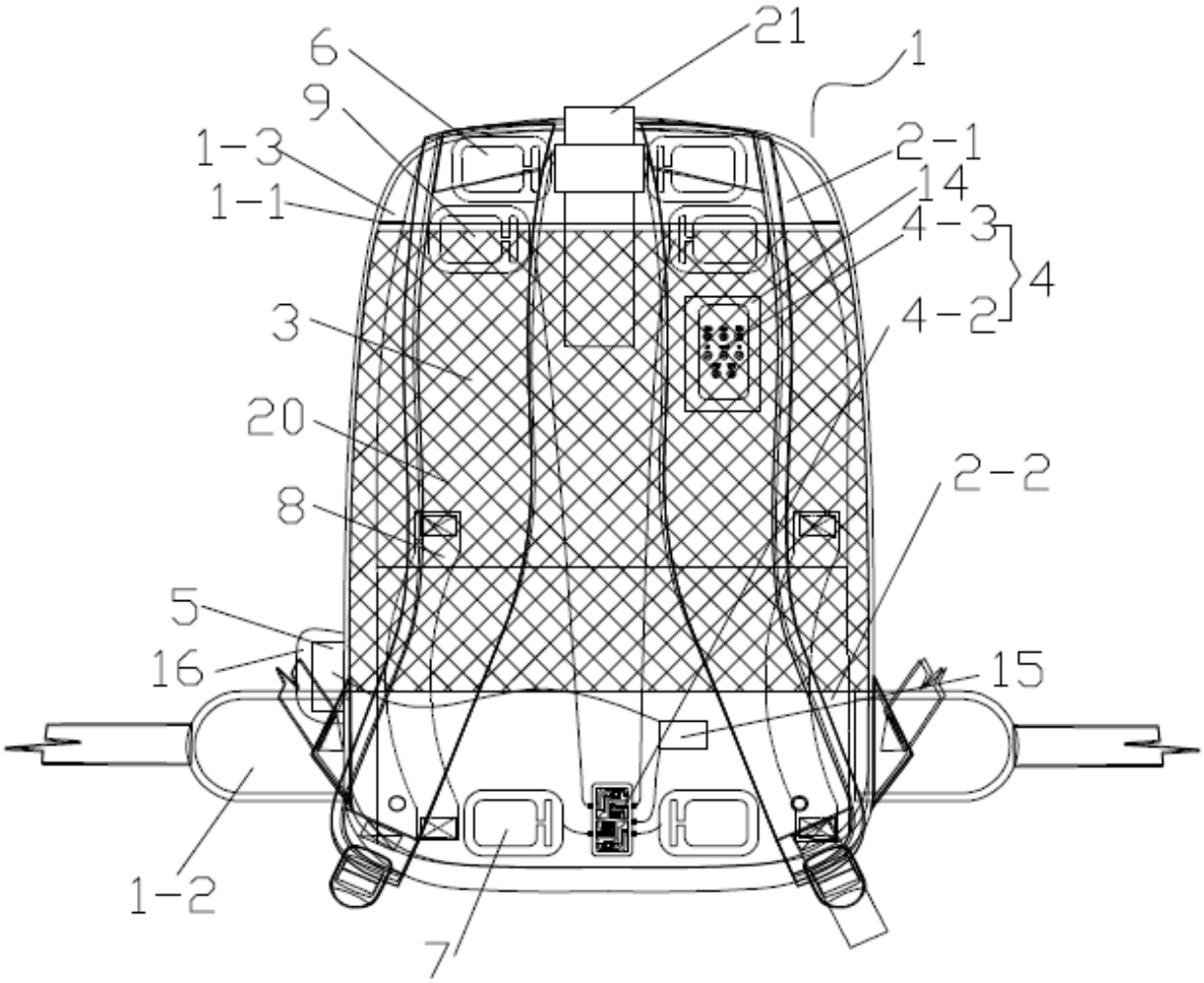


FIG 11

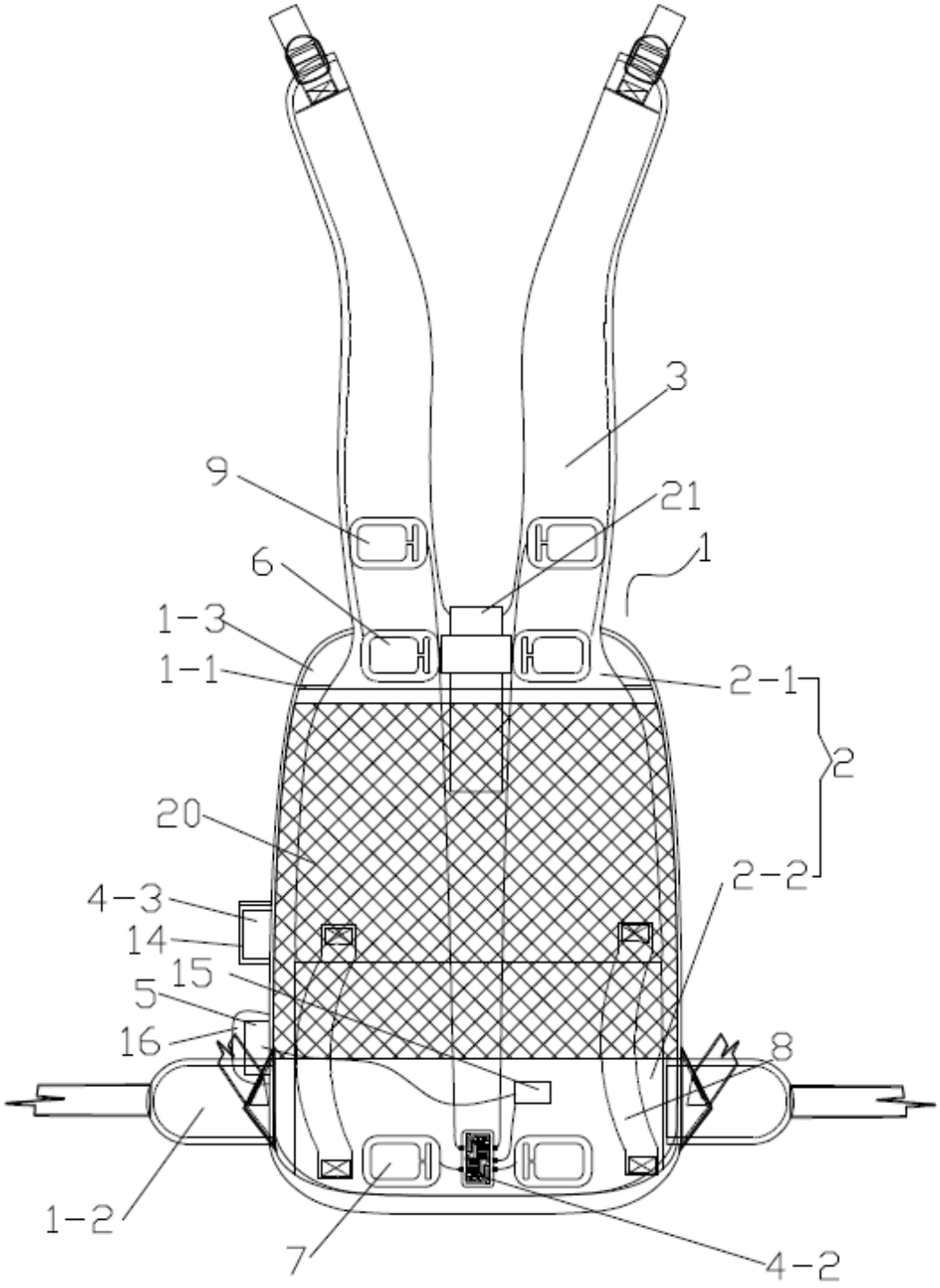


FIG 12

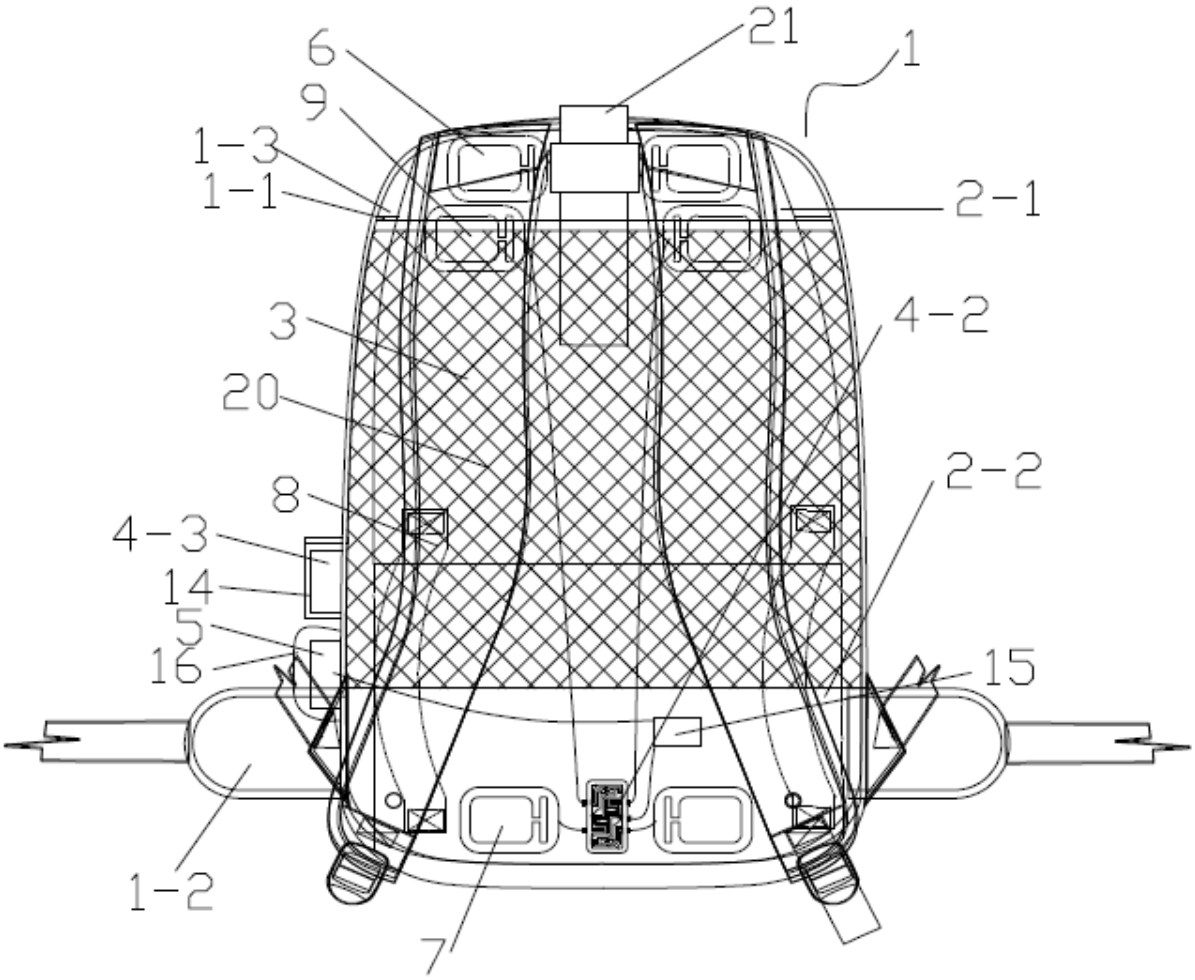


FIG 13

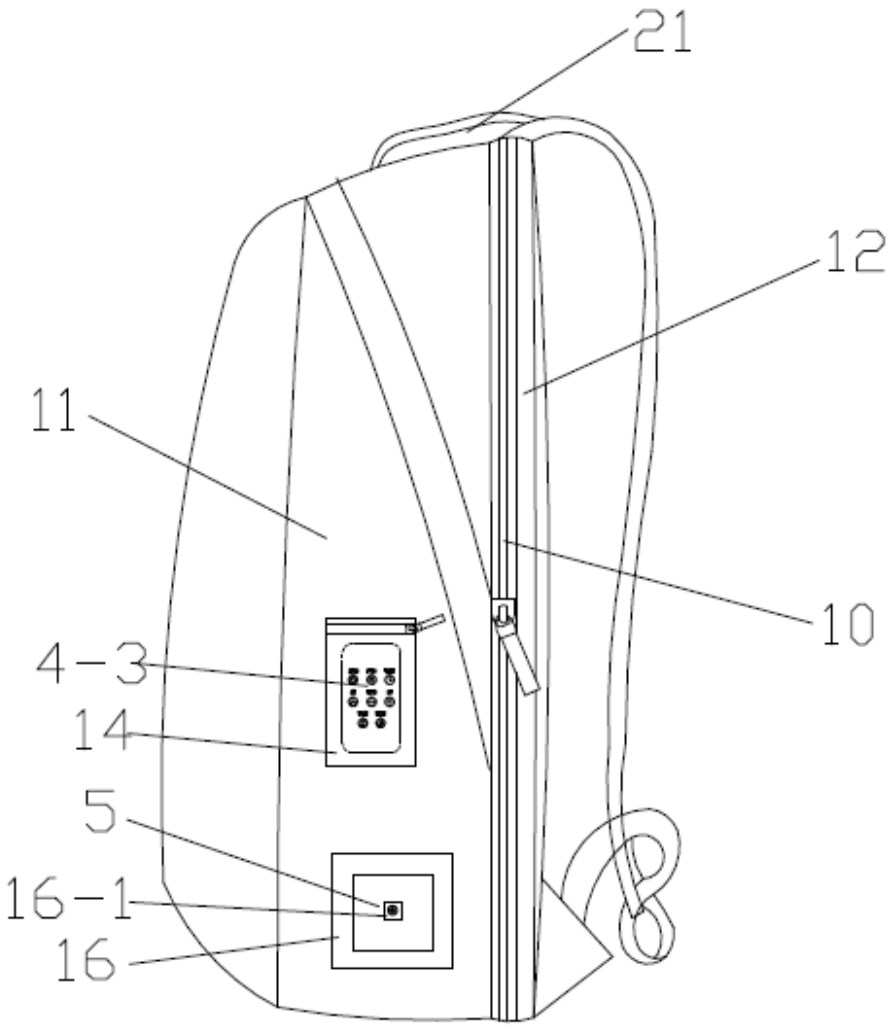


FIG 14

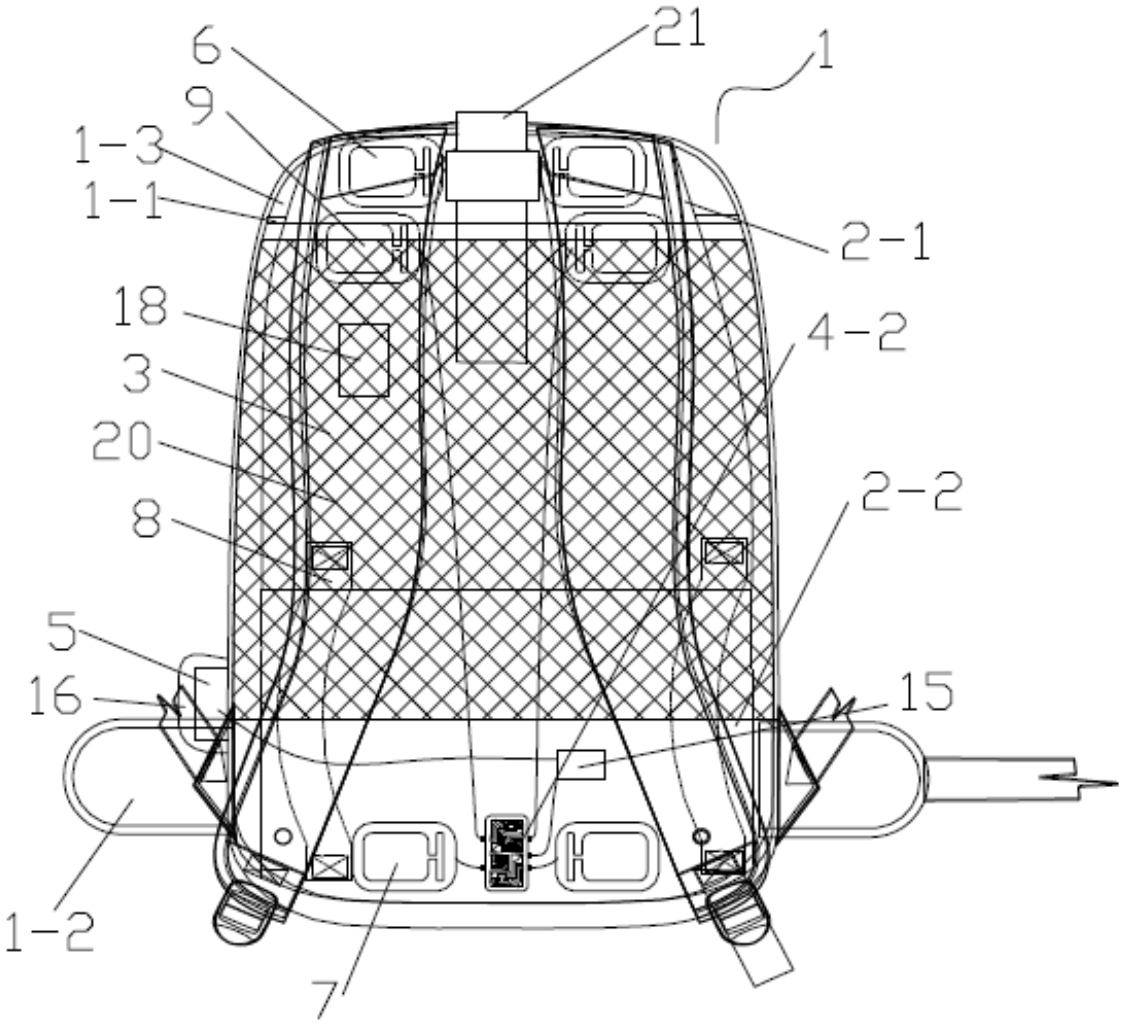


FIG 15

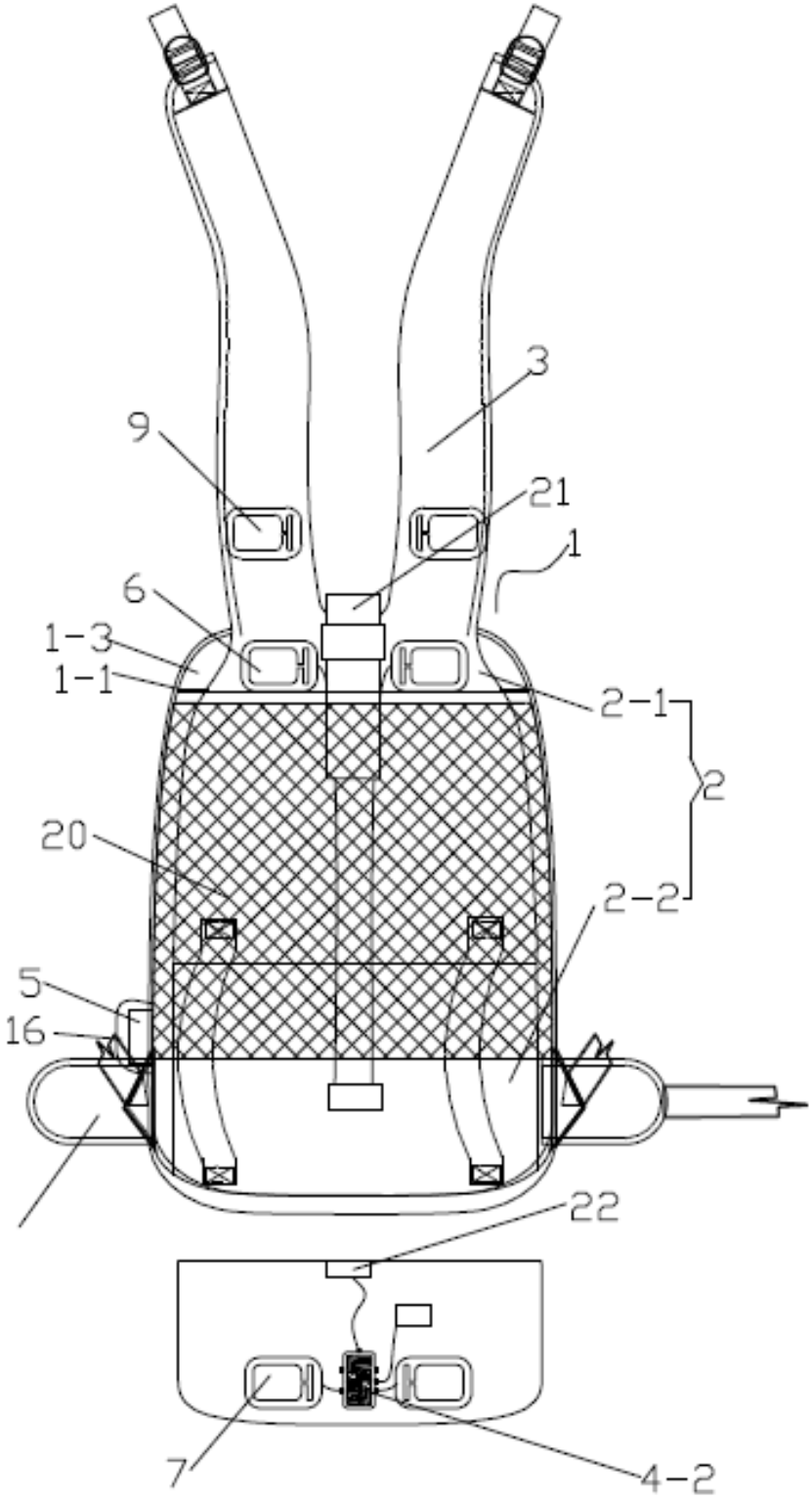


FIG 16

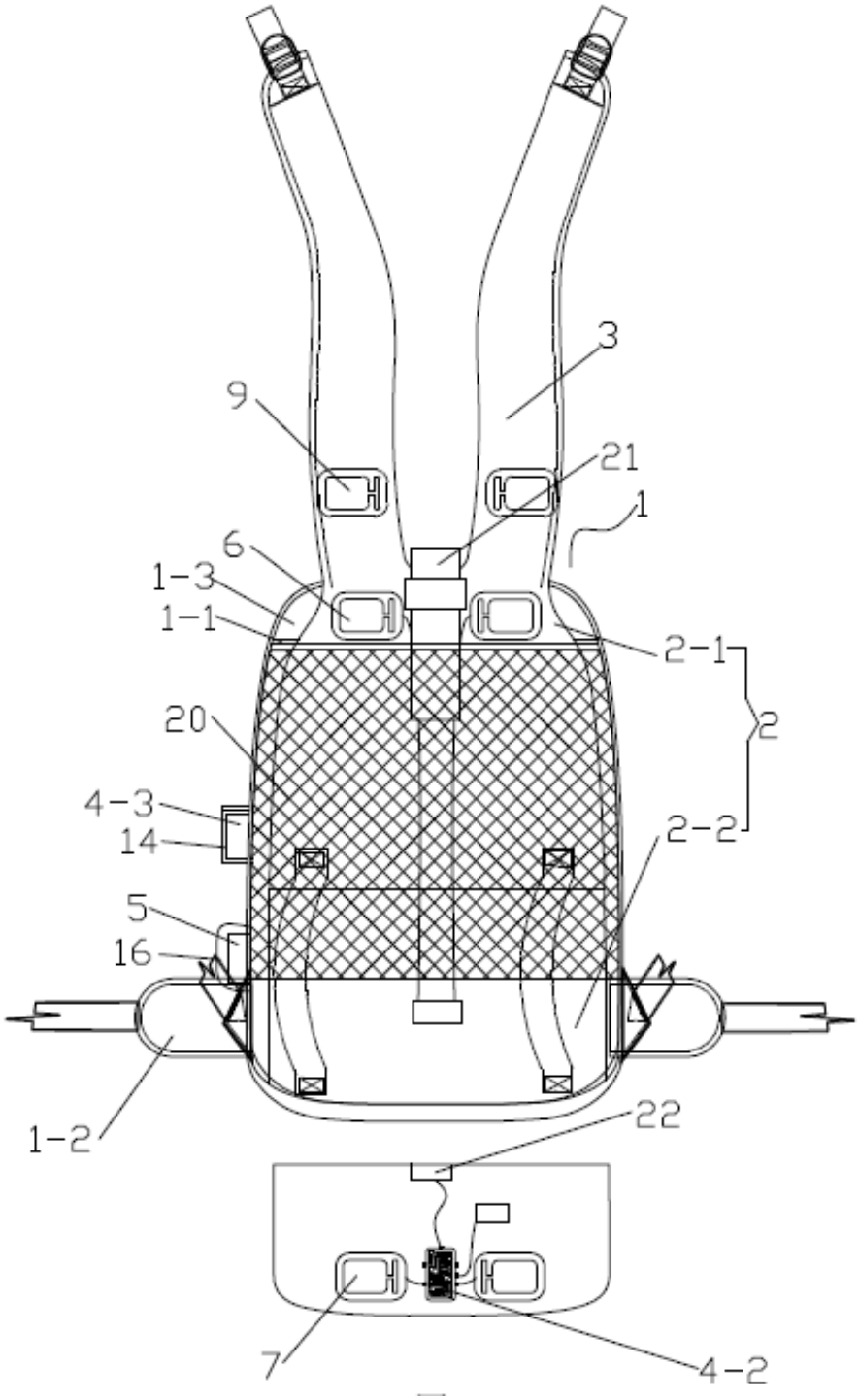


FIG 17

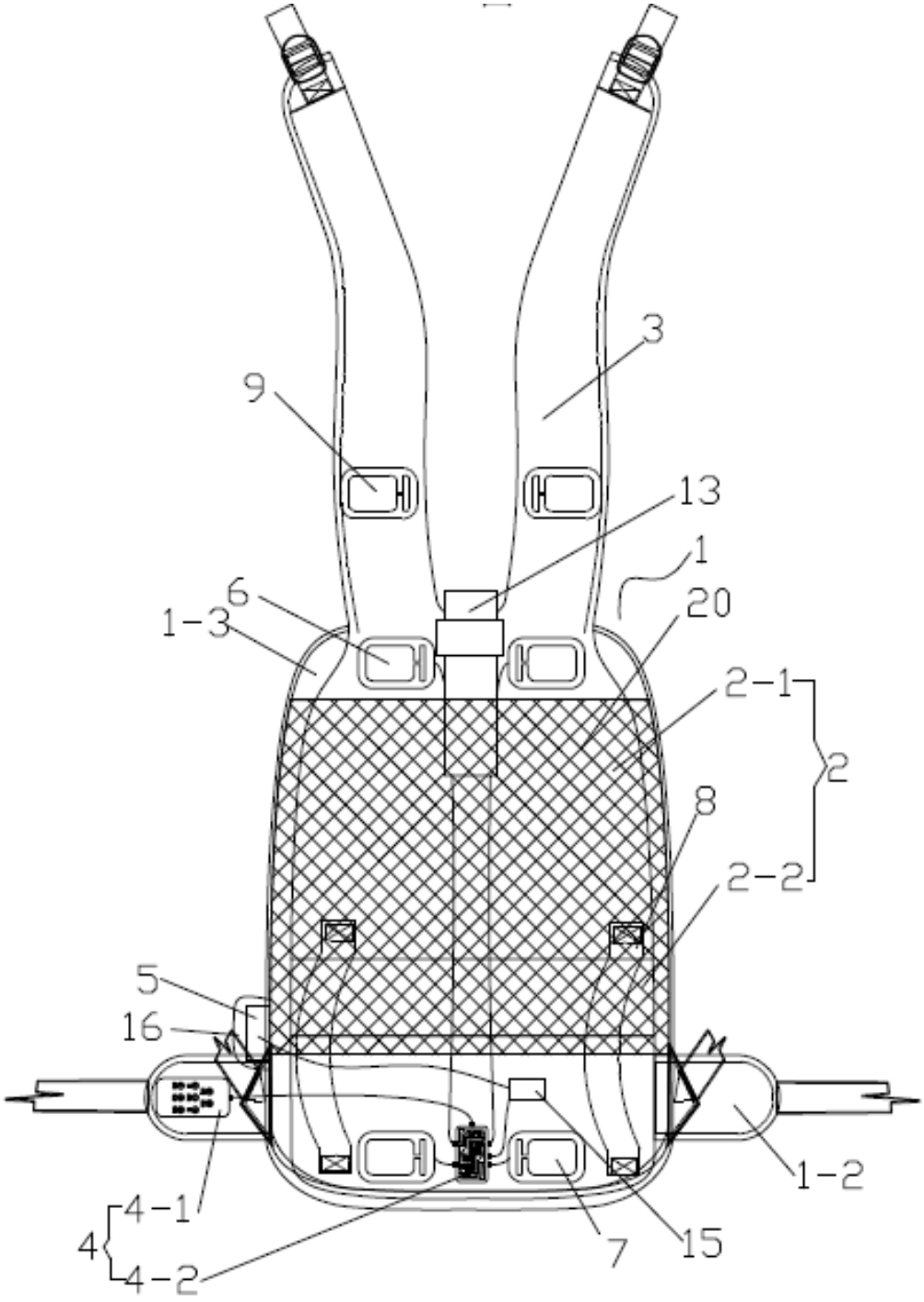


FIG 18

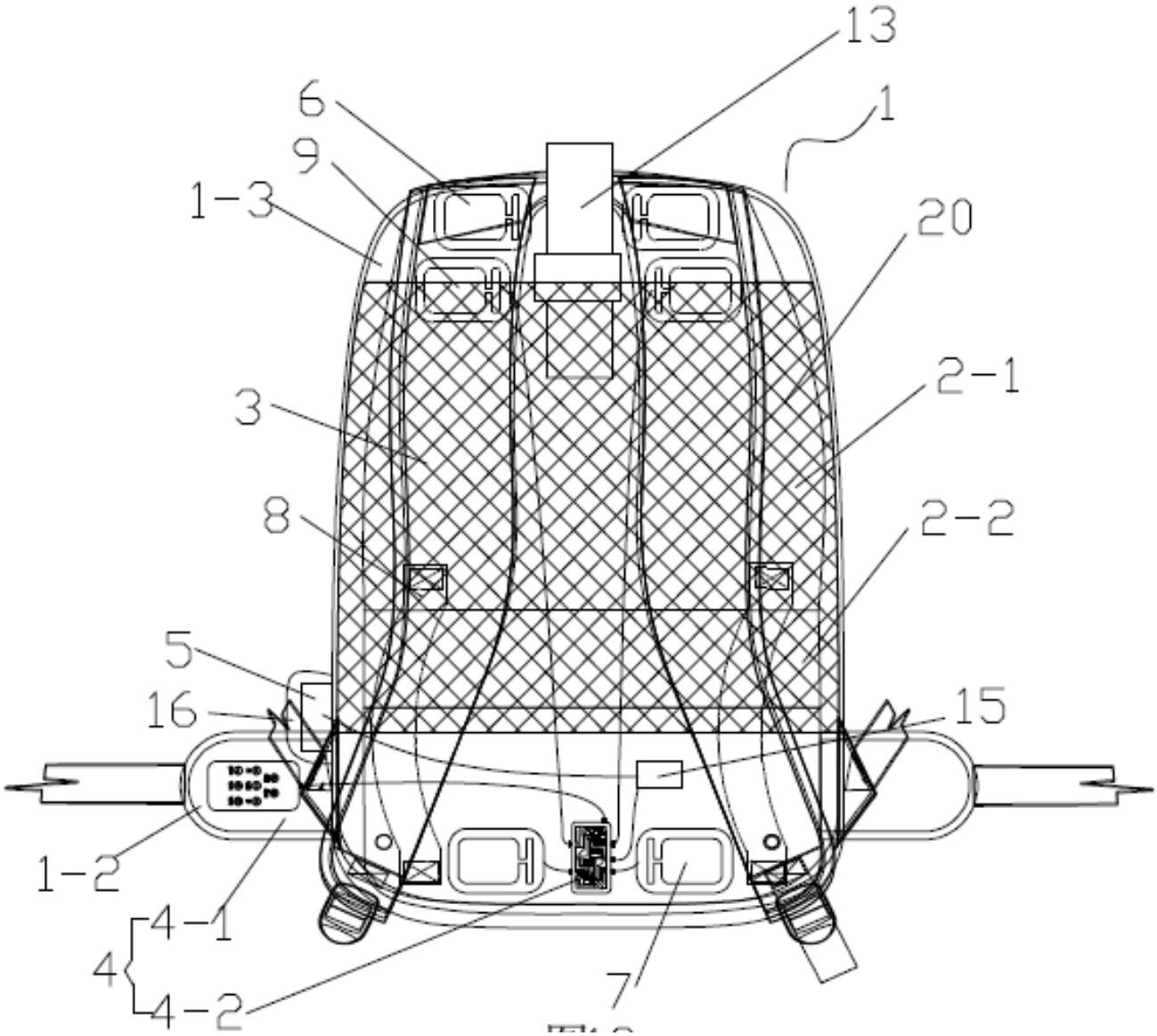


FIG 19

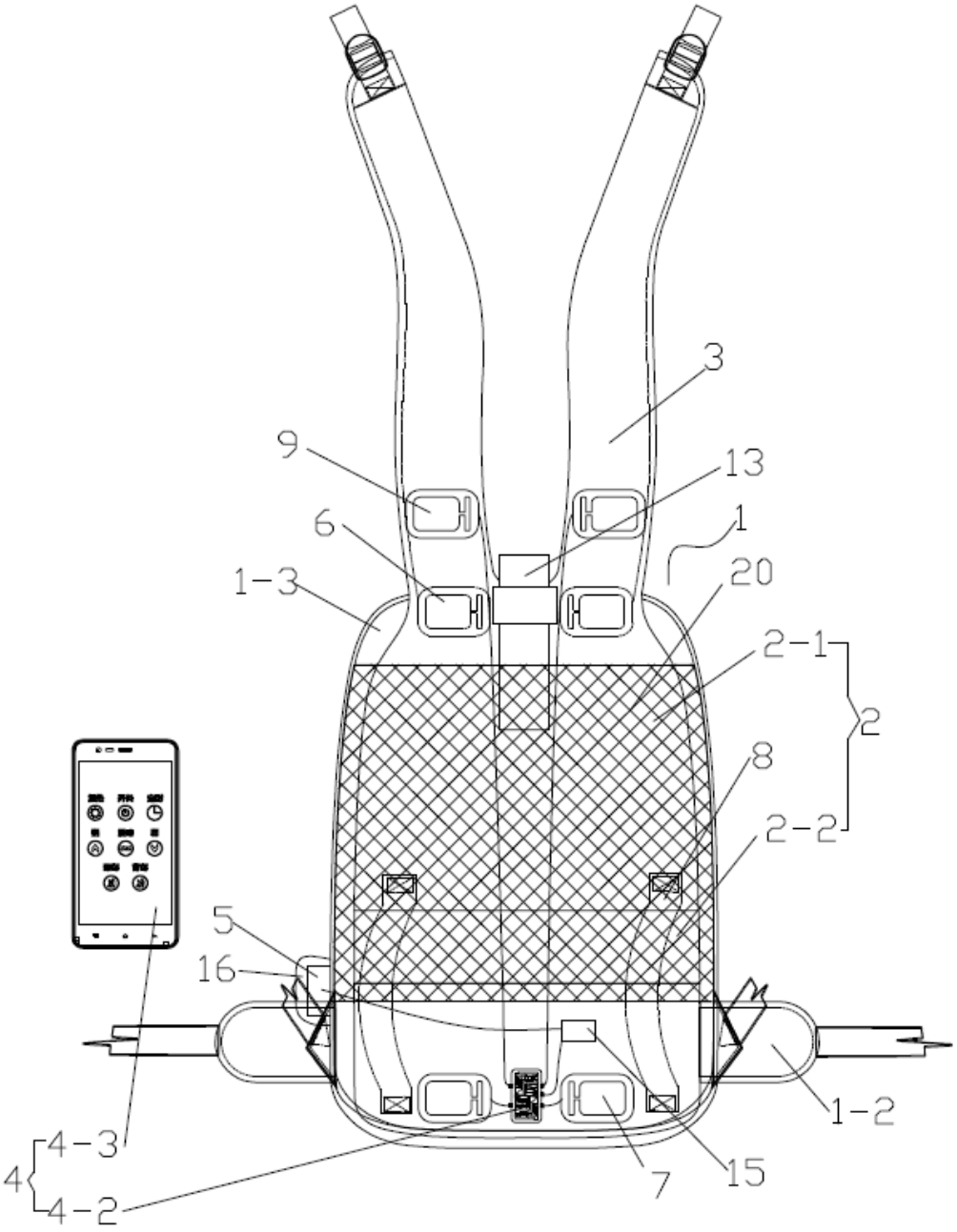


FIG 20

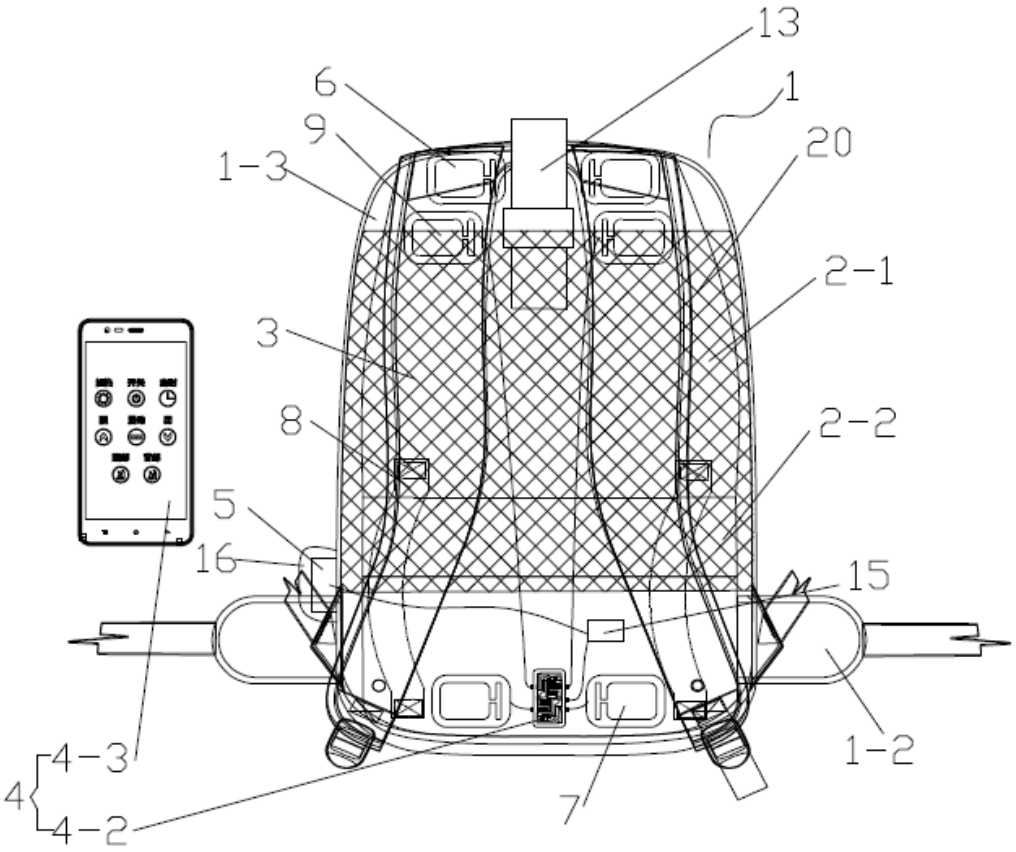


FIG 21

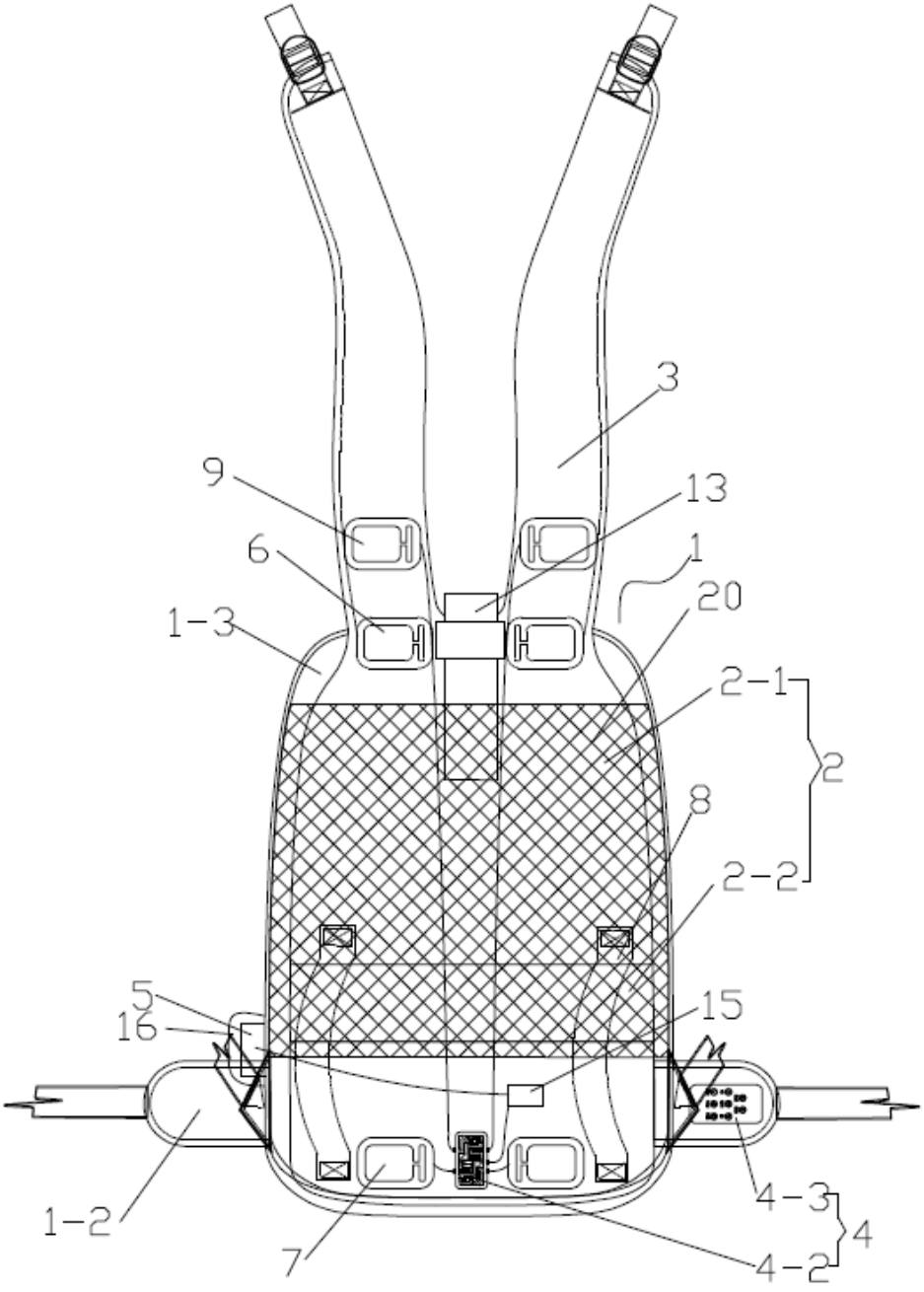


FIG 22

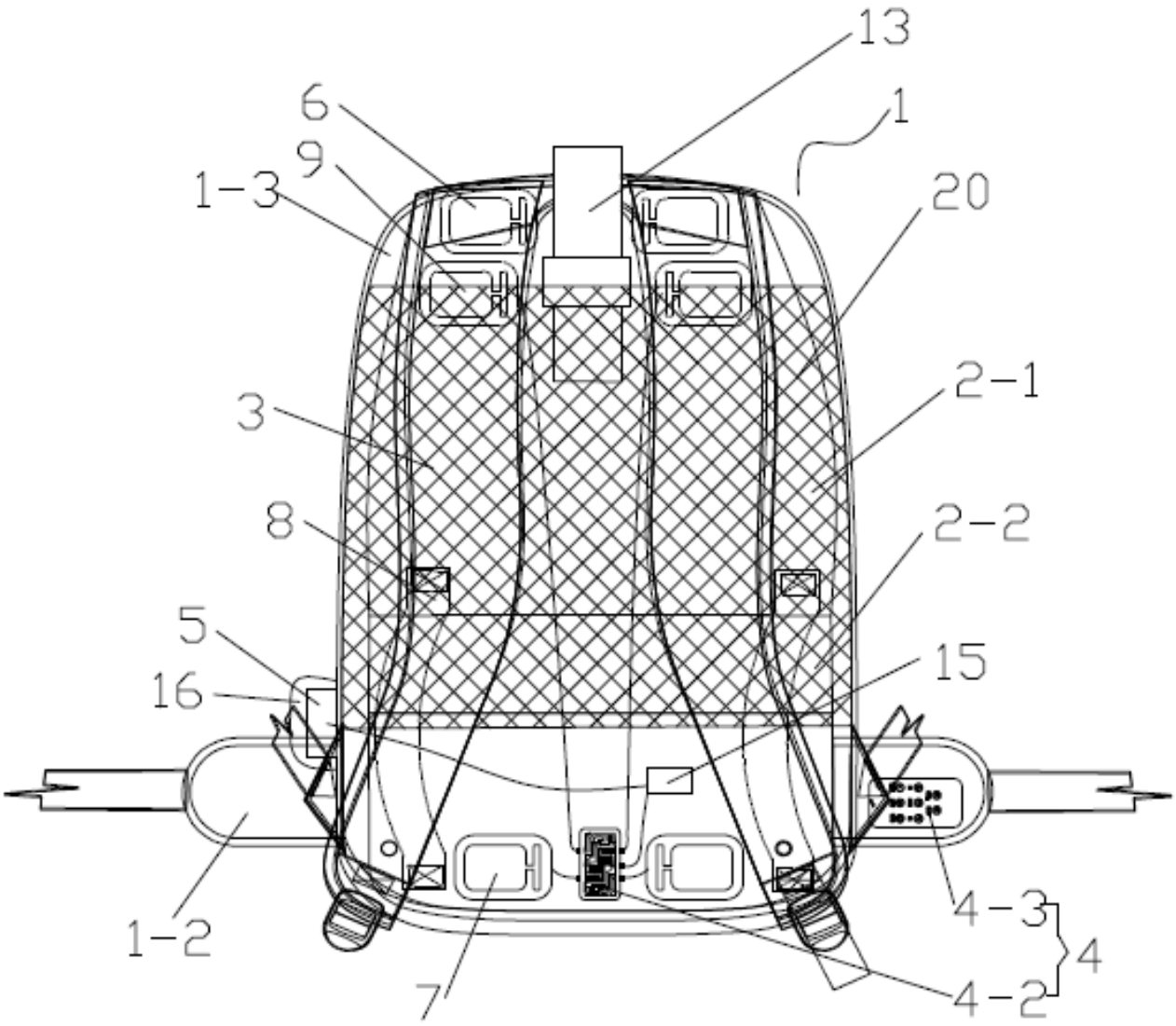


FIG 23

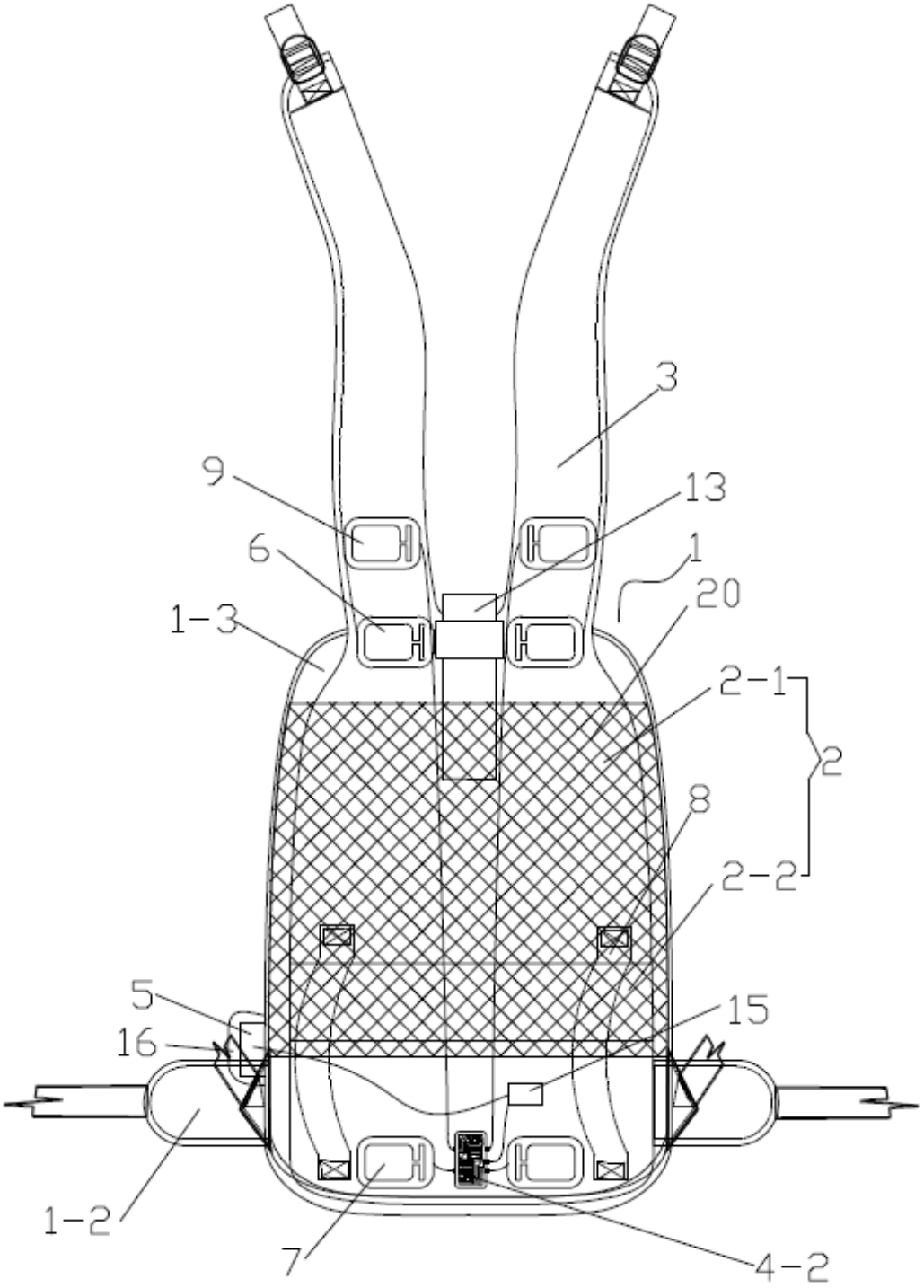


FIG 24

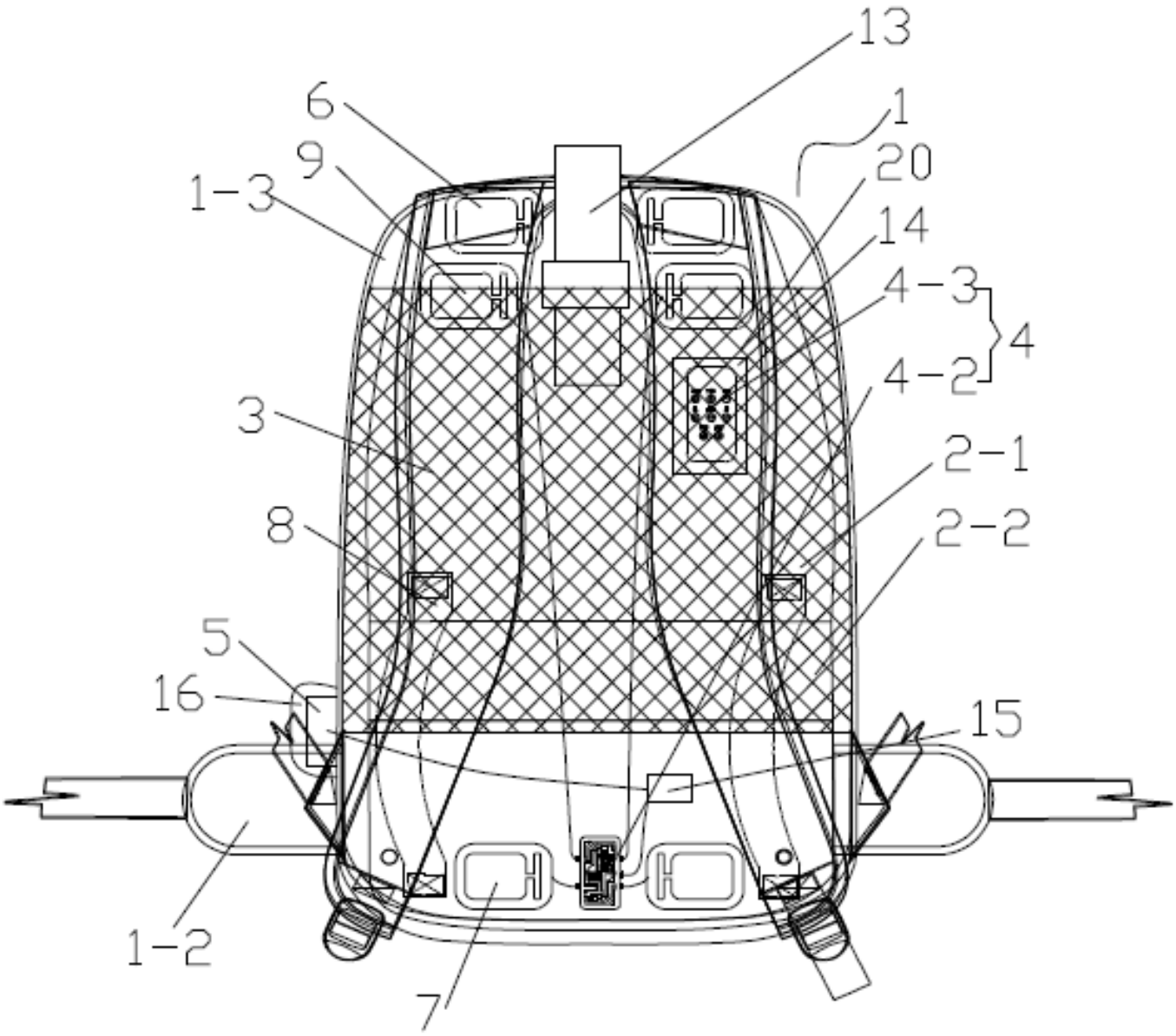


FIG 25

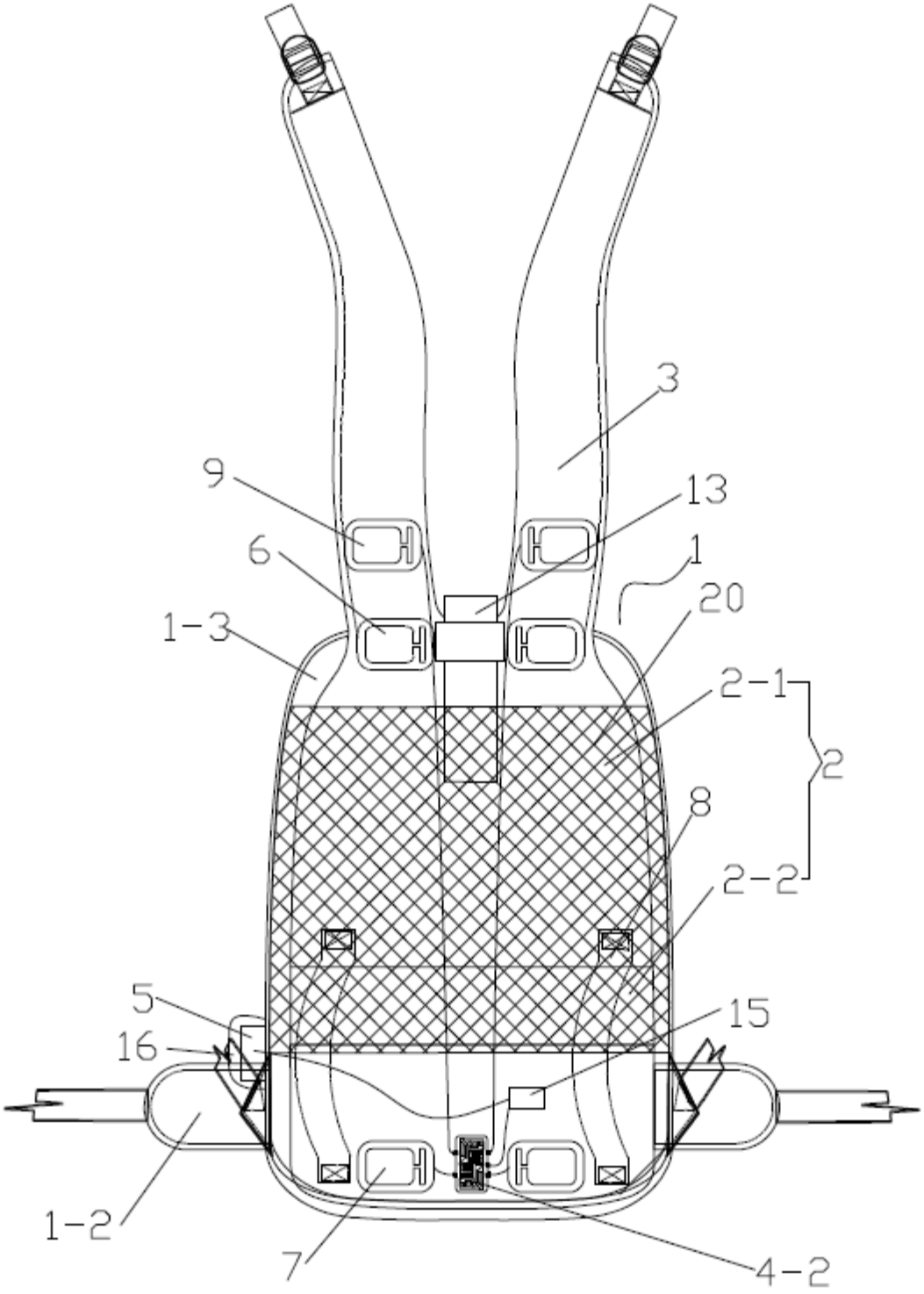


FIG 26

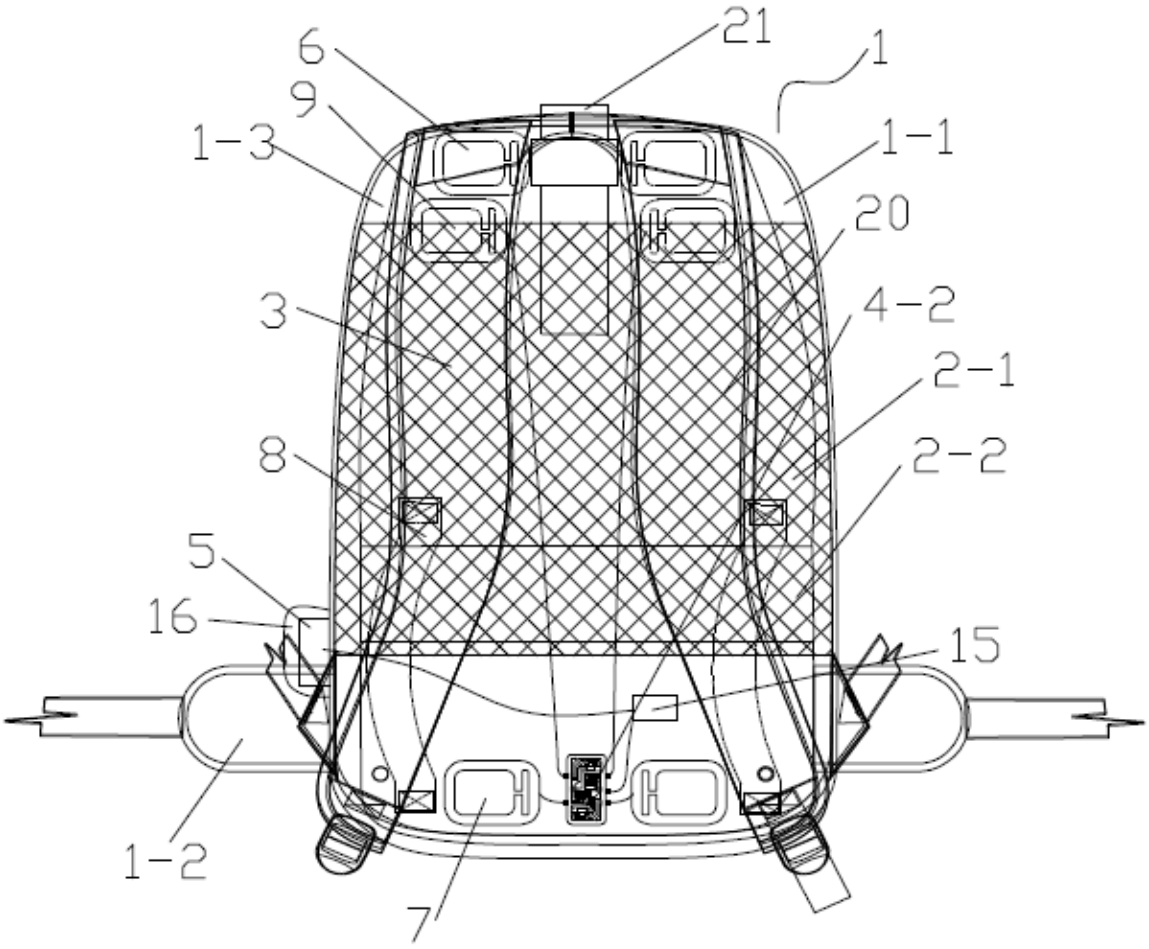


FIG 27

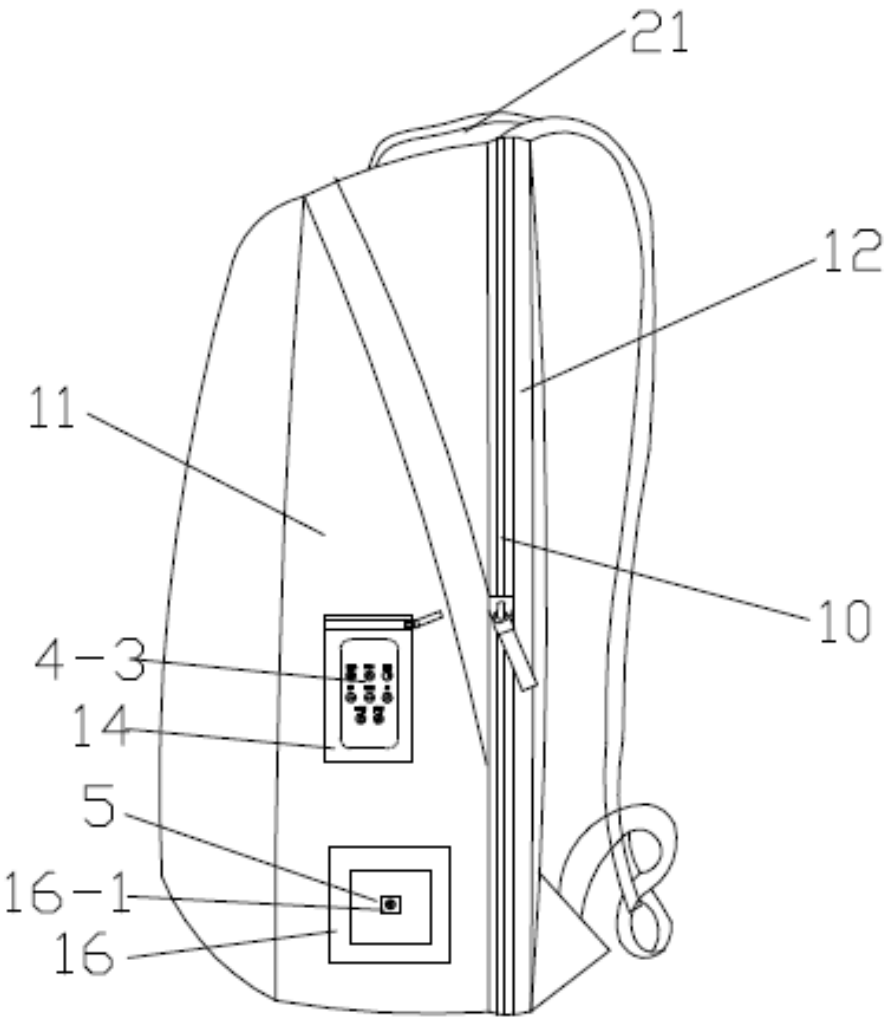


FIG 28

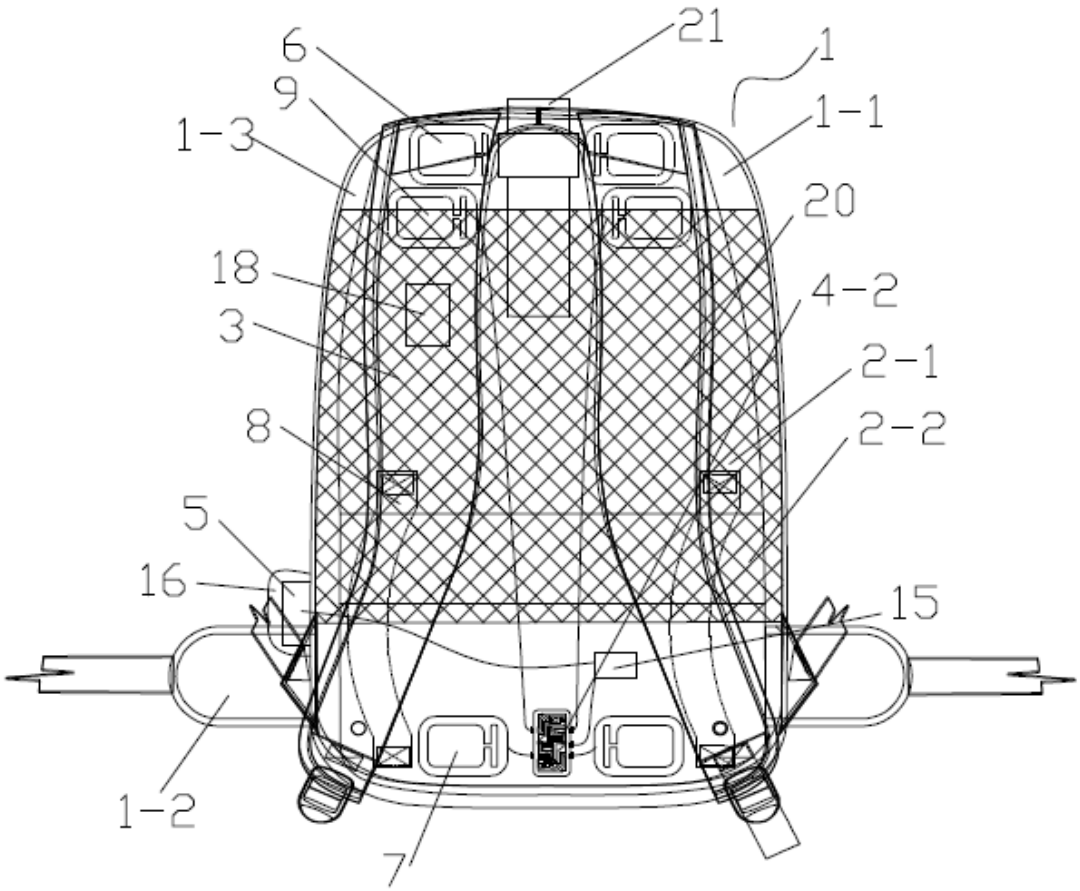


FIG 29

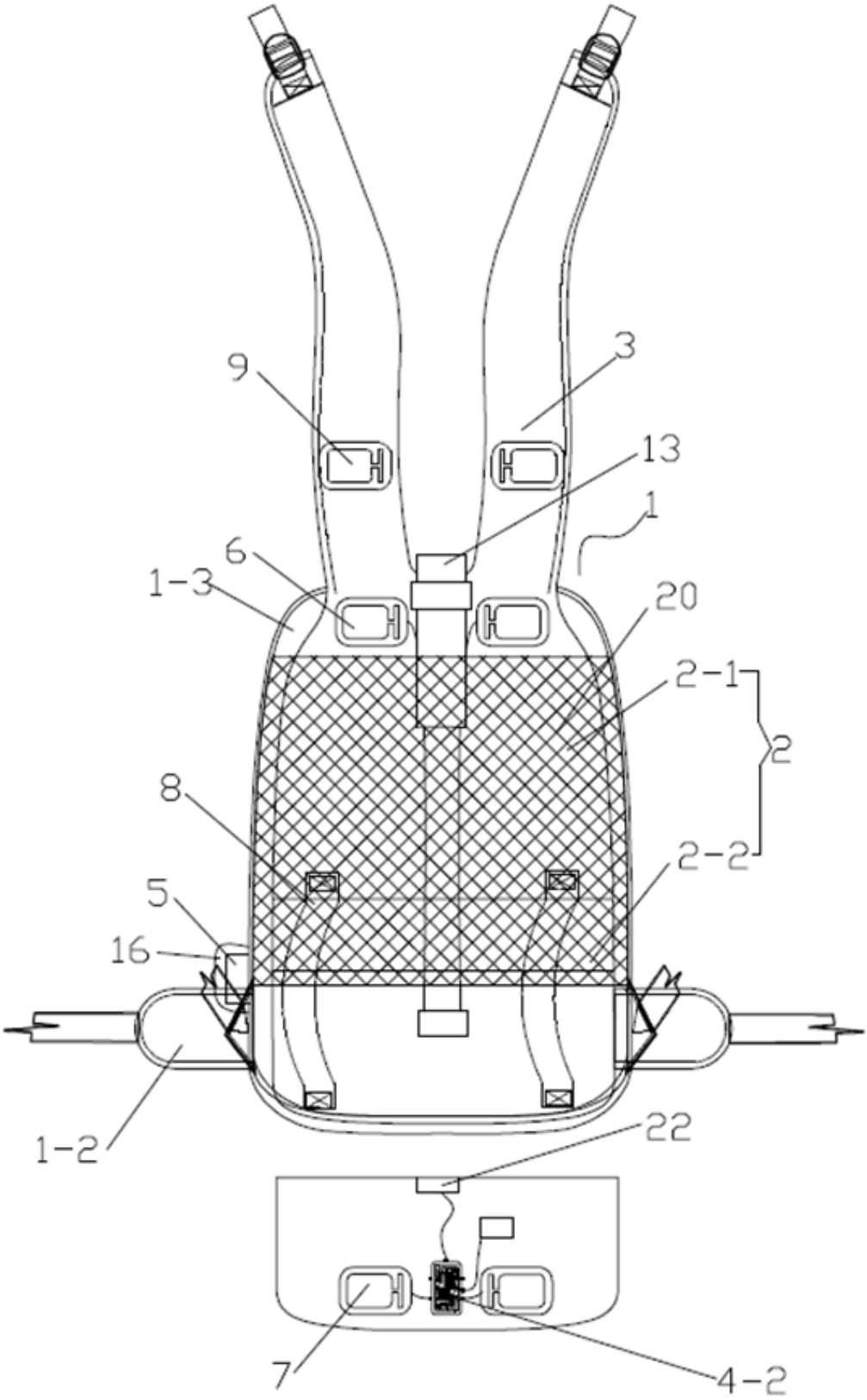


FIG 30

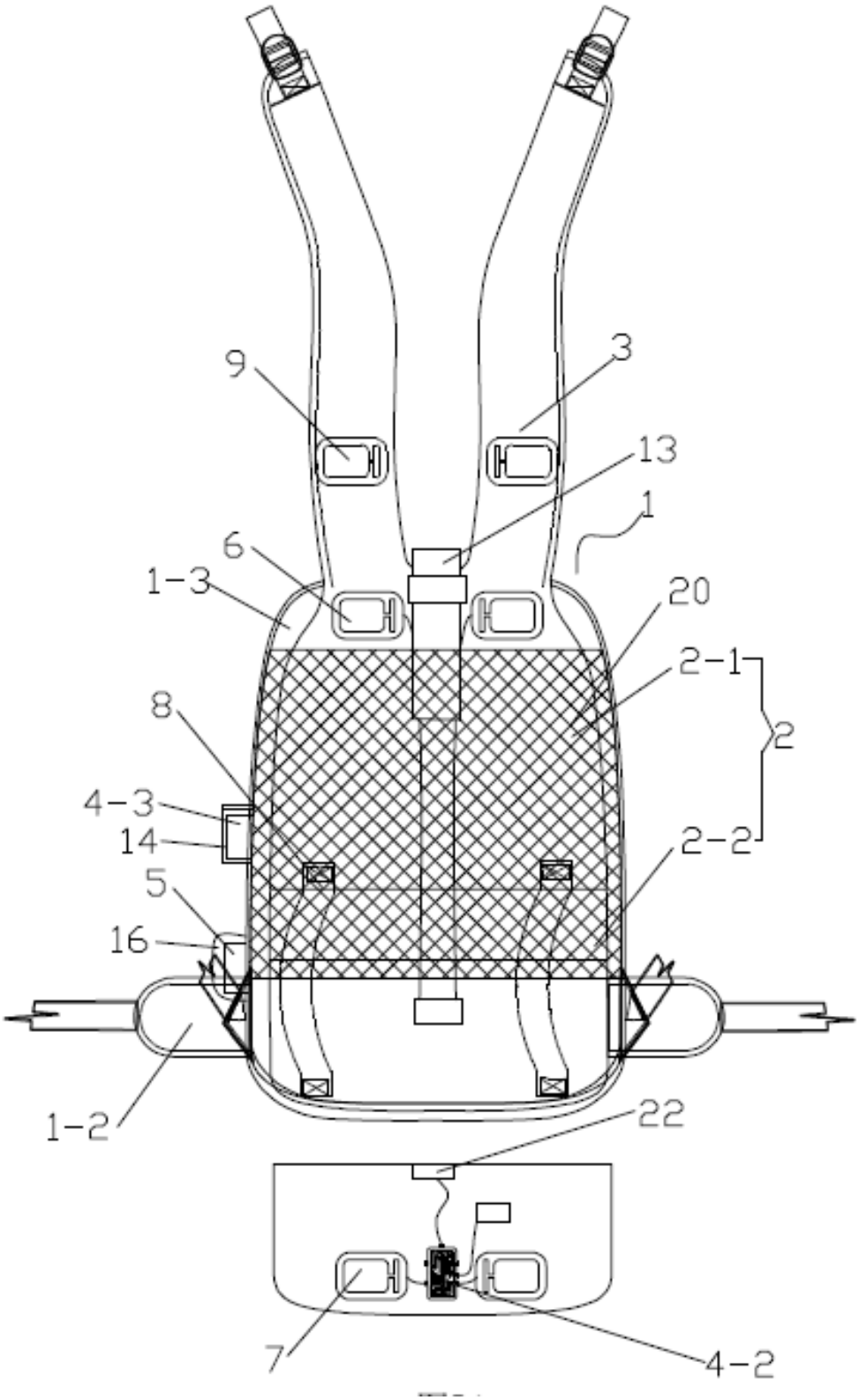


FIG 31

说 明 书

减负按摩背包

技术领域

本发明涉及一种减负按摩背包，应用在箱包生产领域。

背景技术

现有的背包多功能单一，不具有按摩功能，而使用者长时负重后，难免腰酸背痛，只能另外使用按摩器进行缓解。另外，市售的按摩器只能单独按摩腰部、肩部或背部，无法满足同时按摩腰部、肩部、背部的需求。因此提供一种能使用背包的同时能按摩腰部和或肩部和或背部，且能根据使用者需要调整按摩位置的减负按摩背包已成为当务之亟。

内容

为了克服现有背包不具有按摩功能以及市售的按摩器只能单独按摩腰部、肩部或背部，无法在背包的同时满足按摩的需求的缺点，本发明提供一种减负按摩背包，其在背包上设置具有弹性的固定片层，且在固定片层上设置能对腰部、肩部、背部进行按摩的按摩装置，使得在使用背包同时能对一个或多个部位进行按摩，且能根据使用者需要调整按摩位置，甚至根据需要还可将按摩装置拆卸下来单独使用，使用时非常灵活方便。

本发明的技术方案如下：

一种减负按摩背包，包括包体和背带，所述包体上贴近背部位置设有一个上部具有开口的夹层，该夹层内设有一具有弹性的固定片层，所述固定片层的下端固定在夹层的底部，上端可由开口伸出且与背带固定连接，所述包体背部贴近腰部、固定片层上贴近背部或者背带上贴近肩部的任一位置或任意几个位置设有按摩装置。

所述减负按摩背包，通过在包体夹层内设置具有弹性的固定片层，且在固定片层上设置能对腰部、肩部、背部进行按摩的按摩装置，使得在使用背包同时能对多个部位进行按摩，且能根据使用者需要调整按摩位置。

所述固定片层的顶部还通过第一限位带与包体的顶部相连接，能对固定片层起到固定作用，防止包体过度后仰造成背包不适。所述固定片层包括依次自上而下相连接的上片和下片，下片底端连接在夹层底部，上片露出夹层开口，

下片为弹性材料，背带通过上片与固定片层相连接。所述下片可以由一片较宽的弹性布料制成，或者可以由多条弹性织带组合而成。由于此上片能上下移动，可方便调整按摩装置的位置。本发明中下片的弹性设计可以在使用者背包时产生类似扁担的弹性晃动原理，可以起到减负和缓解背带直接冲击肩部的作用，增加背包的舒适度。

所述上片底部通过第二限位带连接在夹层底部，且该第二限位带的长度大于下片纵向的长度以对上片的上下移动起限位作用。此第二限位带能对上片的上下移动起限位作用，以防止下片受力过度断裂。所述第一限位带和第二限位带可以是织带也可以是弹性织带。

所述按摩装置包括至少一个按摩机构、用于控制按摩机构工作的控制电路，所述控制电路还设有用于连接给控制电路和按摩机构供电的外接电源的电源连接线。用户可以将该电源连接线连接上自行配备的移动电源后为控制电路和按摩机构供电。

另外，本发明所述按摩装置还可以包括第一电源，所述控制电路和第一电源均设在包体上，直接利用第一电源分别给控制电路和按摩机构供电。所述第一电源可为大容量电池组、移动电源或充电宝等。

所述按摩机构可包括一对第一按摩头，第一按摩头左右间隔固定在固定片层顶端且对应背部两侧位置。采用上述结构的按摩机构能实现对背部进行按摩。

所述按摩机构还可包括一对第二按摩头，第二按摩头左右间隔固定在包体背部底端且对应在腰部两侧位置。采用上述结构的按摩机构能实现对腰部进行按摩。

所述按摩机构还可包括一对第三按摩头，每个第三按摩头均固定在一个背带上靠近固定片层的一端部，且当使用背带背包时对应在肩部位置。采用上述结构的按摩机构能实现对肩部进行按摩。

所述按摩机构也可采用第一按摩头、第二按摩头以及第三按摩头一种或任意几种根据需要自由搭配设置。

所述控制电路包括控制面板以及用于接收控制面板发出的指令并根据该指令控制按摩机构工作的控制电路主板，控制电路主板设在包体内，控制面板设在包体或背带上的任意位置，所述控制面板与控制电路主板间通过电线相连接。采用上述有线连接的控制电路的成本更低。

所述控制电路包括无线遥控装置以及用于接收无线遥控装置发出的指令并

根据该指令控制按摩机构工作的控制电路主板，控制电路主板设在包体内，无线遥控装置与控制电路主板间通过无线信号连接。采用上述无线遥控的控制电路在使用上更加方便。所述无线遥控装置可以为红外遥控装置、蓝牙遥控装置或者带有控制软件的移动终端等，也可以是其他短波或射频信号无线遥控装置。

所述包体包括包身以及分别连接在包身下部左右两侧对应腰部位置的一对腰带，两腰带能配合将减负按摩背包固定在腰部。上述腰带的设置可以使得背包使用时更稳固。所述控制面板还可设在腰带上，该腰带为弹性腰带。采用此优选方案的控制面板方便使用。

所述包体包括前袋体和后背，所述前袋体和后背之间通过连接装置连接成一个整体，所述夹层和固定片层均设置在后背上，所述前袋体为多个不同风格和用途的前袋体结构之一。上述优选方案方便更换不同的前袋体。所述连接装置可以为拉链或各种扣具。

所述包体或背带上还设有用于容纳控制面板的第一容纳袋，第一容纳袋的开口处通过拉链或者扣具进行开闭，所述控制面板通过电线穿过第一容纳袋的内部与包体内的控制电路主板相连接。

另外，所述控制面板还可以设在腰带上，该腰带采用弹性材料制成，使用时可以将腰带拉伸至方便使用者操作的位置。同时，所述控制面板也可以是直接设置在背带、腰带、手把、包的侧边、包的底部以及在这些位置，包括但是不限于使用第一容纳袋收藏等。

包体外侧壁设有用于放置第一电源的第二容纳袋；该第二容纳袋上设有用于露出充电宝开关按键的露出孔，可以方便直接在包体外部直接控制第一电源的使用，而不必打开包体后才能操作第一电源的开关。

所述减负按摩背包还包括设在夹层内且位于夹层内壁和固定片层之间的充气层，该充气层在充气后能将固定片层压紧在背部。此方案可以使得按摩装置与身体更紧密贴合，以达到按摩最佳效果，以及起到减负的作用。

所述减负按摩背包还包括设在夹层内且位于夹层内壁和固定片层之间的充水层，该充水层充水或各种导热冷却液后能将固定片层压紧在背部。此方案可以使得与身体更紧密贴合，以达到按摩最佳效果，以及起到减负的作用；且在使用者在背包时还能起到一定的散热作用。

进一步地，还可以减负按摩背包上集成有加热装置或冷气吹风装置，以达到在冬天加热背部或者在夏天对背部散热制冷的效果。

进一步地，所述设置在包体背部贴近腰部或者设置在固定片层上贴近背部位置的按摩装置可拆卸地安装在包体上，所述可拆卸式按摩装置包括控制电路、按摩机构和与按摩机构电连接的第二电源，第二电源分别给按摩机构和控制电路供电，所述第二电源为干电池或蓄电池。此优选方案中，可以使按摩装置拆卸下来单独使用，如在坐飞机或者汽车时以及在座椅休息时，可将该可拆卸式按摩装置作为腰部或者背部的独立按摩器使用。

进一步地，所述可拆卸式按摩装置还包括一可以与第一电源电连接的接口，当所述可拆卸式按摩装置安装在包体上时，第一电源还可以通过该接口给按摩机构和控制电路供电。进一步地，也可以通过第一电源给第二电源充电。此方案设计可以使得第二电源经常保持有电的状态，以便所述可拆卸式按摩装置可随时单独拆卸下来使用。

所述背带上可以设置有可与包体内部移动电源连接的充电接口；还可以设有集成有充电接口的蓝牙控制器，所述控制电路包括该蓝牙控制器以及用于接收蓝牙控制器发出的指令并根据该指令控制按摩机构的控制电路主板，该蓝牙控制器具有蓝牙信号接收功能，能与带有控制软件的移动终端通讯。所述第一电源还可以给该蓝牙控制器供电。此优选方案可以通过集成蓝牙控制器，扩充背包的更多功能，如蓝牙防丢、充电、与手机 APP 连接控制等扩展功能，更方便使用。

本发明还公开可实现上述发明目的的另一种技术方案：

另一种减负按摩背包，包括包体和背带，所述包体背部设有一具有弹性的固定片层，所述固定片层的下端固定在包体背部的底部，上端与背带固定连接，固定片层的顶部还通过第三限位带与包体的顶部相连接，所述包体背部贴近腰部、固定片层上贴近背部或者背带上贴近肩部的任一位置或任意几个位置设有按摩装置。此优选方案中，通过取消夹层结构，使固定片层外露，更方便维护，且可以节省布料，成本更低。

为了增加背包的装饰美感和舒适性，所述减负按摩背包还包括一块两侧边与包体背部的两个侧边相连接的隔离层，所述隔离层包设在固定片层部分或全部的外表面且将固定片层包裹贴近在包体背部上。优选地，隔离层能盖住固定片层，使得整体更加美观和牢固。所述隔离层为面料、EVA 复合材料或网布材料等。其余结构均与第一种技术方案的结构相同。同样可以达到上述发明目的。

与现有技术相比，本发明申请具有以下优点：

1）本申请的减负按摩背包，其包体夹层内设置有固定片层，并在包体背部贴近腰部、固定片层上贴近背部或者背带上贴近肩部的任一位置或任意几个位置设有按摩装置，使得在使用背包同时能对多个部位进行按摩；

2）弹性固定片层的设计，使用者能根据自身需要灵活调整按摩位置。

附图说明

图 1 是本发明所述的减负按摩背包实施例 1 解开背带的结构图；

图 2 是本发明所述的减负按摩背包实施例 1 使用状态的结构图；

图 3 是本发明所述的减负按摩背包实施例 1 的侧视图；

图 4 是本发明所述的减负按摩背包带充气层的夹层示意图一；

图 5 是本发明所述的减负按摩背包带充水层的夹层示意图一；

图 6 是本发明所述的减负按摩背包实施例 2 解开背带的结构图；

图 7 是本发明所述的减负按摩背包实施例 2 使用状态的结构图；

图 8 是本发明所述的减负按摩背包实施例 3 解开背带的结构图；

图 9 是本发明所述的减负按摩背包实施例 3 使用状态的结构图；

图 10 是本发明所述的减负按摩背包实施例 4 解开背带的结构图；

图 11 是本发明所述的减负按摩背包实施例 4 使用状态的结构图；

图 12 是本发明所述的减负按摩背包实施例 5 解开背带的结构图；

图 13 是本发明所述的减负按摩背包实施例 5 使用状态的结构图；

图 14 是本发明所述的减负按摩背包实施例 5 的侧视图；

图 15 是本发明所述的减负按摩背包实施例 6 使用状态的结构图；

图 16 是本发明所述的减负按摩背包实施例 7 解开背带的结构图 1；

图 17 是本发明所述的减负按摩背包实施例 7 解开背带的结构图 2；

图 18 是本发明所述的减负按摩背包实施例 8 解开背带的结构图；

图 19 是本发明所述的减负按摩背包实施例 8 使用状态的结构图；

图 20 是本发明所述的减负按摩背包实施例 9 解开背带的结构图；

图 21 是本发明所述的减负按摩背包实施例 9 使用状态的结构图；

图 22 是本发明所述的减负按摩背包实施例 10 解开背带的结构图；

图 23 是本发明所述的减负按摩背包实施例 10 使用状态的结构图；

图 24 是本发明所述的减负按摩背包实施例 11 解开背带的结构图；

图 25 是本发明所述的减负按摩背包实施例 11 使用状态的结构图；

图 26 是本发明所述的减负按摩背包实施例 12 解开背带的结构图；

图 27 是本发明所述的减负按摩背包实施例 12 使用状态的结构图；

图 28 是本发明所述的减负按摩背包实施例 12 的侧视图；

图 29 是本发明所述的减负按摩背包实施例 13 使用状态的结构图；

图 30 是本发明所述的减负按摩背包实施例 14 解开背带的结构图 1；

图 31 是本发明所述的减负按摩背包实施例 14 解开背带的结构图 2。

标号说明：

包体 1、固定片层 2、背带 3、控制电路 4、第一电源 5、第一按摩头 6、第二按摩头 7、第二织带 8、第三按摩头 9、连接装置 10、前袋体 11、后背 12、第三织带 13、第一容纳袋 14、第二电源 15、第二容纳袋 16、充气层 17、蓝牙控制器 18、充水层 19、隔离层 20、第一限位带 21、接口 22、夹层 1-1、腰带 1-2、包身 1-3、上片 2-1、下片 2-2、控制面板 4-1、控制电路主板 4-2、无线遥控装置 4-3、露出孔 16-1。

具体实施方式

下面结合说明书附图 1-31 对本发明的技术方案进行详细说明。

实施例 1

如图 1-5 所示，本发明所述的一种减负按摩背包，包括包体（1）和背带（3），所述包体（1）上贴近背部位置设有一个上部具有开口的夹层（1-1），该夹层（1-1）内设有一具有弹性的固定片层（2），所述固定片层（2）的下端固定在夹层（1-1）的底部，上端可由开口伸出且与背带（3）固定连接，所述包体（1）背部贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

所述固定片层（2）的顶部还通过第一限位带（21）与包体（1）的顶部相连接。

所述固定片层（2）包括依次自上而下相连接的上片（2-1）和下片（2-2），下片（2-3）底端连接在夹层（1-1）底部，上片（2-1）露出夹层（1-1）开口，下片（2-2）为弹性材料，背带（3）通过上片（2-1）与固定片层（2）相连接。

所述上片（2-1）底部通过第二限位带（8）连接在夹层（1-1）底部，且该第二限位带（8）的长度大于下片（2-2）纵向的长度以对上片（2-1）的上下移动起限位作用。

所述按摩装置包括至少一个按摩机构、用于控制按摩机构工作的控制电路（4），所述控制电路（4）还设有用于连接给控制电路（4）和按摩机构供电的外接电源的电源连接线。

所述按摩装置还包括第一电源（5），所述控制电路（4）和第一电源（5）均设在包体（1）上，第一电源（5）分别给控制电路（4）和按摩机构供电。

所述按摩机构包括至少一个第一按摩头（6），所述第一按摩头（6）固定设置在固定片层（2）顶端且对应背部的位置。

所述按摩机构包括至少一个第二按摩头（7），所述第二按摩头（7）固定设置在包体（1）背部底端且对应在腰部的位置。

所述按摩机构包括至少一个第三按摩头（9），每个第三按摩头（9）固定设置在一个背带（3）上靠近固定片层（2）的一端部，且当使用背带（3）背包时对应在肩部位置。

所述控制电路（4）包括控制面板（4-1）以及用于接收控制面板（4-1）发出的指令并根据该指令控制按摩机构工作的控制电路主板（4-2），控制电路主板（4-2）设在包体（1）内，控制面板（4-1）设在背包上的任意位置，控制面板（4-1）通过电线与控制电路主板（4-2）相连接。

所述包体（1）包括包身（1-3）以及连接在包身（1-3）下部左右两侧对应腰部位置的腰带（1-2），所述腰带（1-2）能配合将减负按摩背包固定在腰部。

所述包体（1）包括前袋体（11）和后背（12），所述前袋体（11）和后背（12）之间通过连接装置（10）连接成一个整体，所述夹层（1-1）和固定片层（2）均设置在后背（12）上，所述前袋体（11）为多个不同风格和用途的前袋体结构之一。

所述包体（1）的下部左右两侧对应腰部位置的腰带（1-2），所述控制面板（4-1）设在腰带（1-2）上。

该腰带为弹性可拉伸材料制成。

包体外侧壁设有用于放置第一电源（5）的第二容纳袋（16）。

该第二容纳袋(16)上设有用于露出第一电源(5)开关按键的露出孔(16-1)。

所述减负按摩背包还包括设在固定片层（2）后方的充气层（17）或充水层（19），该充气层（17）或充水层（19）在充气或充水后能将固定片层（2）压紧在背部。

所述减负按摩背包上还集成有加热装置或冷气吹风装置。

实施例 2

如图 6-7 所示，本实施例与实施例 1 的区别在于：

所述控制电路（4）包括无线遥控装置（4-3）以及用于接收无线遥控装置（4-3）发出的指令并根据该指令控制按摩机构工作的控制电路主板（4-2），控制电路主板（4-2）设在包体（1）内，无线遥控装置（4-3）与控制电路主板（4-2）间通过无线信号连接。

所述无线遥控装置（4-3）为带有控制软件的移动终端。

实施例 3

如图 8-9 所示，本实施例与实施例 1 的区别在于：

所述控制电路（4）包括无线遥控装置（4-3）以及用于接收无线遥控装置（4-3）发出的指令并根据该指令控制按摩机构工作的控制电路主板（4-2），控制电路主板（4-2）设在包体（1）内，无线遥控装置（4-3）与控制电路主板（4-2）间通过无线信号连接。

所述无线遥控装置（4-3）为红外遥控装置或蓝牙遥控装置。

所述包体（1）的下部左右两侧对应腰部位置的腰带（1-2），所述无线遥控装置（4-3）设在腰带（1-2）上。

实施例 4

如图 10-11 所示，本实施例与实施例 1 的区别在于：

所述控制电路（4）包括无线遥控装置（4-3）以及用于接收无线遥控装置（4-3）发出的指令并根据该指令控制按摩机构工作的控制电路主板（4-2），控制电路主板（4-2）设在包体（1）内，无线遥控装置（4-3）与控制电路主板（4-2）间通过无线信号连接。

所述无线遥控装置（4-3）为红外遥控装置或蓝牙遥控装置。

背带上设有用于容纳控制面板（4-1）的第一容纳袋（14），第一容纳袋（14）的开口处通过拉链或者扣具进行开闭，控制面板（4-1）通过电线穿过第一容纳袋（14）的内部与包体（1）内的控制电路主板（4-2）相连接。

实施例 5

如图 12-14 所示，本实施例与实施例 1 的区别在于：

所述控制电路（4）包括无线遥控装置（4-3）以及用于接收无线遥控装置（4-3）发出的指令并根据该指令控制按摩机构工作的控制电路主板（4-2），控制电路主板（4-2）设在包体（1）内，无线遥控装置（4-3）与控制电路主板（4-2）间通过无线信号连接。

所述无线遥控装置（4-3）为红外遥控装置或蓝牙遥控装置。

包体上设有用于容纳控制面板（4-1）的第一容纳袋（14），第一容纳袋（14）的开口处通过拉链或者扣具进行开闭，控制面板（4-1）通过电线穿过第一容纳袋（14）的内部与包体（1）内的控制电路主板（4-2）相连接。

实施例 6

如图 15 所示，本实施例与实施例 1 的区别在于：

所述背带上设有集成有充电接口的蓝牙控制器（18），所述控制电路（4）包括该蓝牙控制器（18）以及用于接收蓝牙控制器（18）发出的指令并根据该指令控制按摩机构的控制电路主板（4-2），该蓝牙控制器（18）具有蓝牙信号接收功能，能与带有控制软件的移动终端通讯。

实施例 7

如图 16-17 所示，本实施例与实施例 1 的区别在于：

所述设置在包体（1）背部贴近腰部或者设置在固定片层（2）上贴近背部位置的按摩装置可拆卸地安装在包体（1）上，所述可拆卸式按摩装置包括控制电路（4）、按摩机构和与按摩机构电连接的第二电源（15），第二电源（15）分别给按摩机构和控制电路（4）供电，所述第二电源（15）为干电池或蓄电池。

所述可拆卸式按摩装置还包括一可以与第一电源（5）电连接的接口（22），当所述可拆卸式按摩装置安装在包体上时，第一电源（5）通过该接口（22）给按摩机构和控制电路（4）供电。

实施例 8

如图 18-19 所示，本发明所述的一种减负按摩背包，其与实施例 1 的区别在于：

包括包体（1）和背带（3），所述包体（1）背部设有一具有弹性的固定片

层（2），所述固定片层（2）的下端固定在包体（1）背部，固定片层（2）的上端与背带（3）固定连接，固定片层（2）的顶部还通过第三限位带（13）与包体（1）的顶部相连接，所述包体（1）背部上贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

所述减负按摩背包还包括一块两侧边与包体（1）背部的两个侧边相连接的隔离层（20），所述隔离层（20）包设在固定片层（2）部分或全部的外表面且将固定片层（2）包裹贴近在包体（1）背部上。

实施例 9

如图 20-21 所示，本实施例其与实施例 2 的区别在于：

包括包体（1）和背带（3），所述包体（1）背部设有一具有弹性的固定片层（2），所述固定片层（2）的下端固定在包体（1）背部，固定片层（2）的上端与背带（3）固定连接，固定片层（2）的顶部还通过第三限位带（13）与包体（1）的顶部相连接，所述包体（1）背部上贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

所述减负按摩背包还包括一块两侧边与包体（1）背部的两个侧边相连接的隔离层（20），所述隔离层（20）包设在固定片层（2）部分或全部的外表面且将固定片层（2）包裹贴近在包体（1）背部上。

实施例 10

如图 22-23 所示，本实施例其与实施例 3 的区别在于：

包括包体（1）和背带（3），所述包体（1）背部设有一具有弹性的固定片层（2），所述固定片层（2）的下端固定在包体（1）背部，固定片层（2）的上端与背带（3）固定连接，固定片层（2）的顶部还通过第三限位带（13）与包体（1）的顶部相连接，所述包体（1）背部上贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

所述减负按摩背包还包括一块两侧边与包体（1）背部的两个侧边相连接的隔离层（20），所述隔离层（20）包设在固定片层（2）部分或全部的外表面且将固定片层（2）包裹贴近在包体（1）背部上。

实施例 11

如图 24-25 所示，本实施例其与实施例 4 的区别在于：

包括包体（1）和背带（3），所述包体（1）背部设有一具有弹性的固定片层（2），所述固定片层（2）的下端固定在包体（1）背部，固定片层（2）的上端与背带（3）固定连接，固定片层（2）的顶部还通过第三限位带（13）与包体（1）的顶部相连接，所述包体（1）背部上贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

所述减负按摩背包还包括一块两侧边与包体（1）背部的两个侧边相连接的隔离层（20），所述隔离层（20）包设在固定片层（2）部分或全部的外表面且将固定片层（2）包裹贴近在包体（1）背部上。

实施例 12

如图 26-28 所示，本实施例其与实施例 5 的区别在于：

包括包体（1）和背带（3），所述包体（1）背部设有一具有弹性的固定片层（2），所述固定片层（2）的下端固定在包体（1）背部，固定片层（2）的上端与背带（3）固定连接，固定片层（2）的顶部还通过第三限位带（13）与包体（1）的顶部相连接，所述包体（1）背部上贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

所述减负按摩背包还包括一块两侧边与包体（1）背部的两个侧边相连接的隔离层（20），所述隔离层（20）包设在固定片层（2）部分或全部的外表面且将固定片层（2）包裹贴近在包体（1）背部上。

实施例 13

如图 29 所示，本实施例其与实施例 6 的区别在于：

包括包体（1）和背带（3），所述包体（1）背部设有一具有弹性的固定片层（2），所述固定片层（2）的下端固定在包体（1）背部，固定片层（2）的上端与背带（3）固定连接，固定片层（2）的顶部还通过第三限位带（13）与包体（1）的顶部相连接，所述包体（1）背部上贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

所述减负按摩背包还包括一块两侧边与包体（1）背部的两个侧边相连接的隔离层（20），所述隔离层（20）包设在固定片层（2）部分或全部的外表面且

将固定片层（2）包裹贴近在包体（1）背部上。

实施例 14

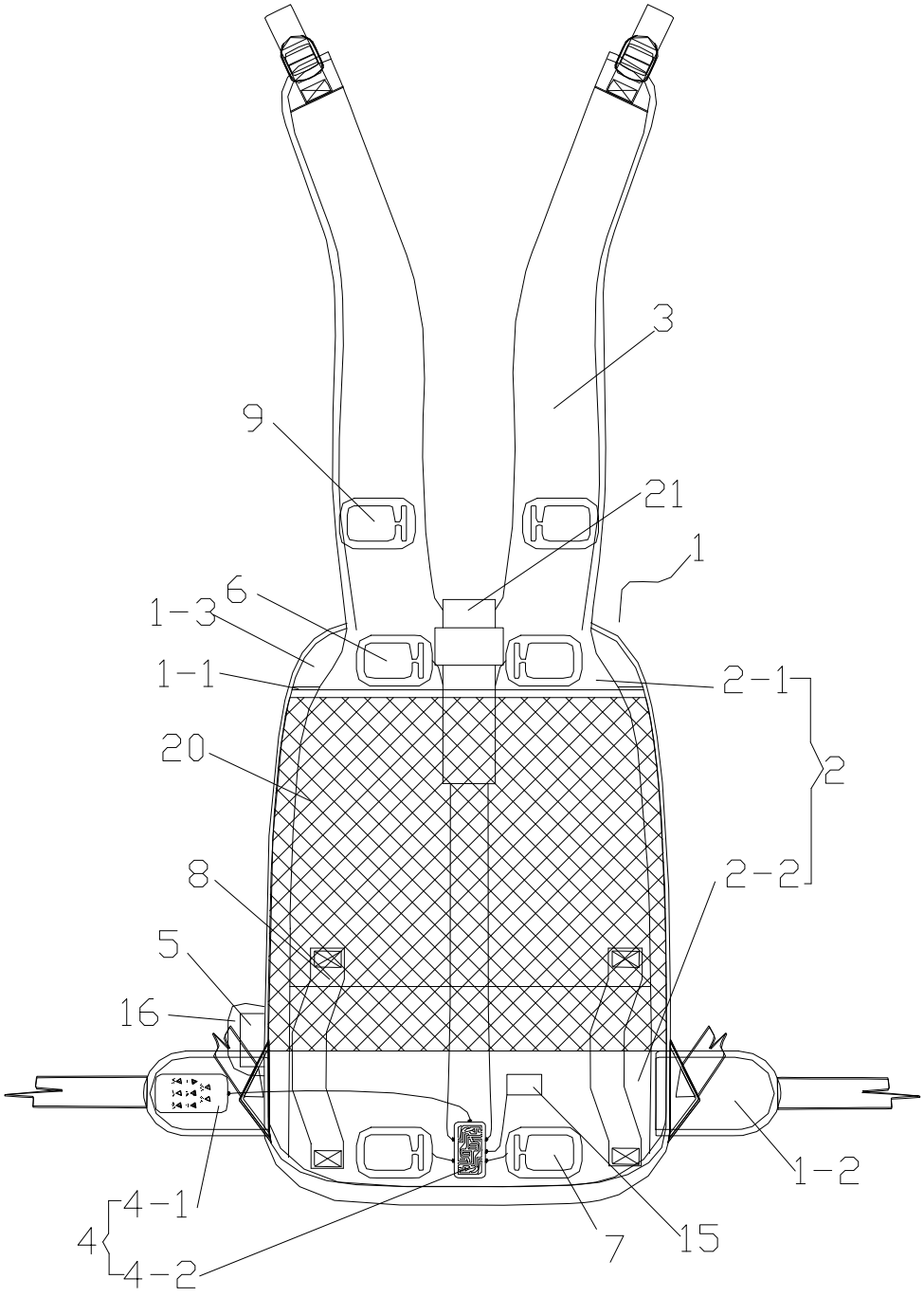
如图 30-31 所示，本实施例其与实施例 7 的区别在于：

包括包体（1）和背带（3），所述包体（1）背部设有一具有弹性的固定片层（2），所述固定片层（2）的下端固定在包体（1）背部，固定片层（2）的上端与背带（3）固定连接，固定片层（2）的顶部还通过第三限位带（13）与包体（1）的顶部相连接，所述包体（1）背部上贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

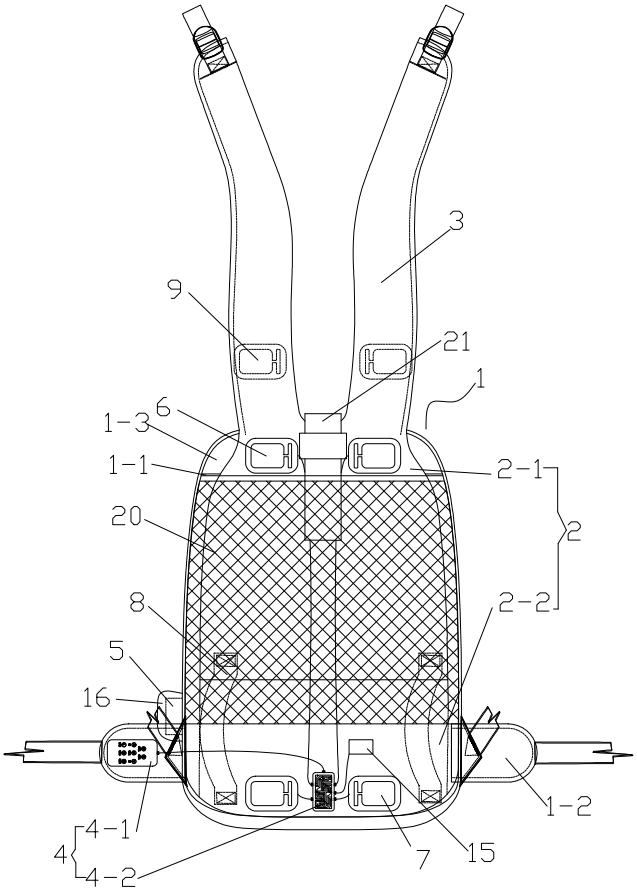
所述减负按摩背包还包括一块两侧边与包体（1）背部的两个侧边相连接的隔离层（20），所述隔离层（20）包设在固定片层（2）部分或全部的外表面且将固定片层（2）包裹贴近在包体（1）背部上。

本发明所述的减负按摩背包并不只仅仅局限于上述实施例，凡是依据本发明原理的任何改进或替换，均应在本发明的保护范围之内。

摘 要 附 图



说 明 书 附 图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2
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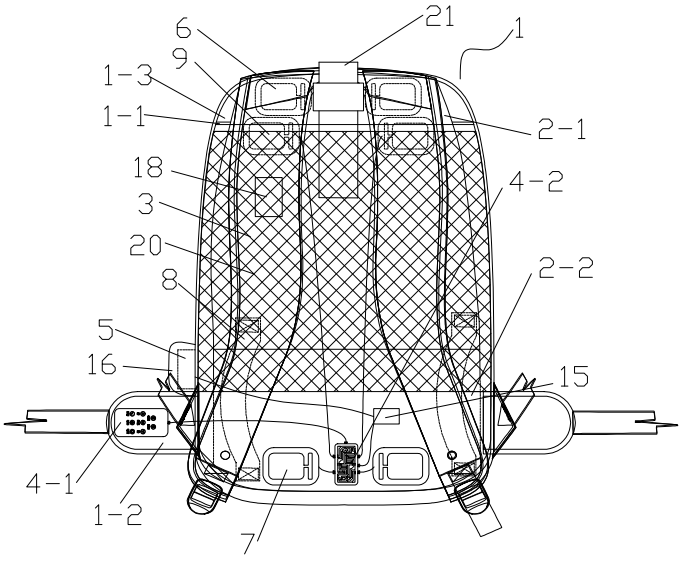
16
1-2
4-1
4
4-2
7
15

图1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4-1
1-2
7

图2

说 明 书 附 图

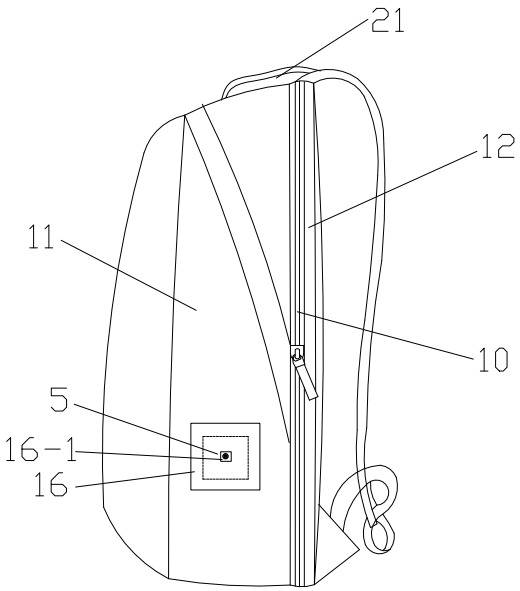

图3

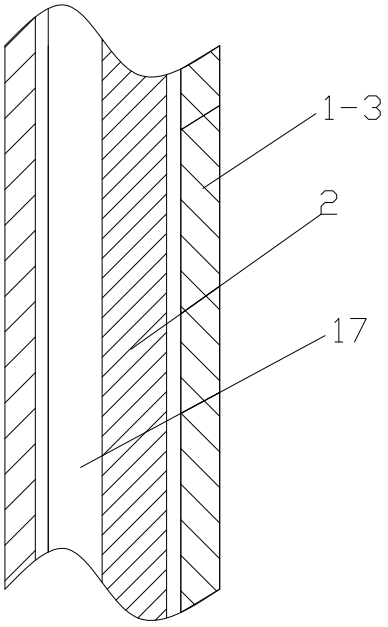

图4

说 明 书 附 图

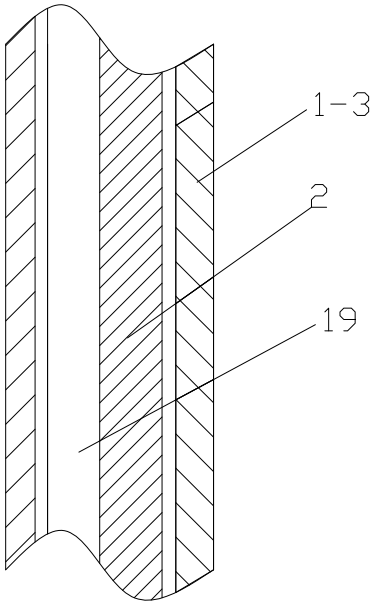

图5

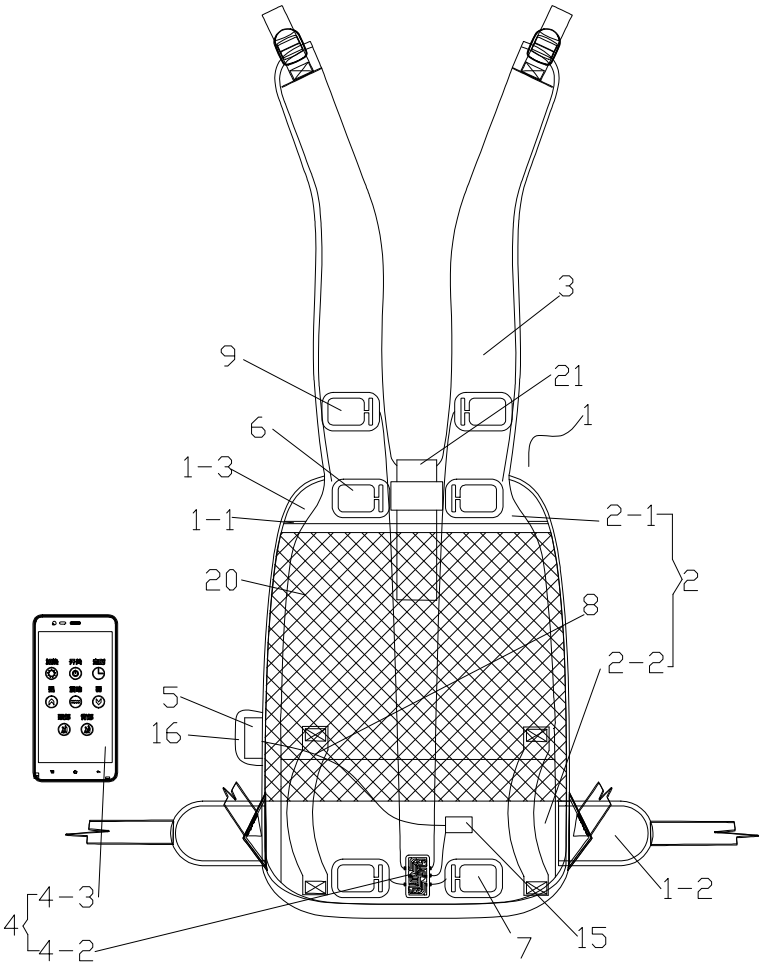

图6

说 明 书 附 图

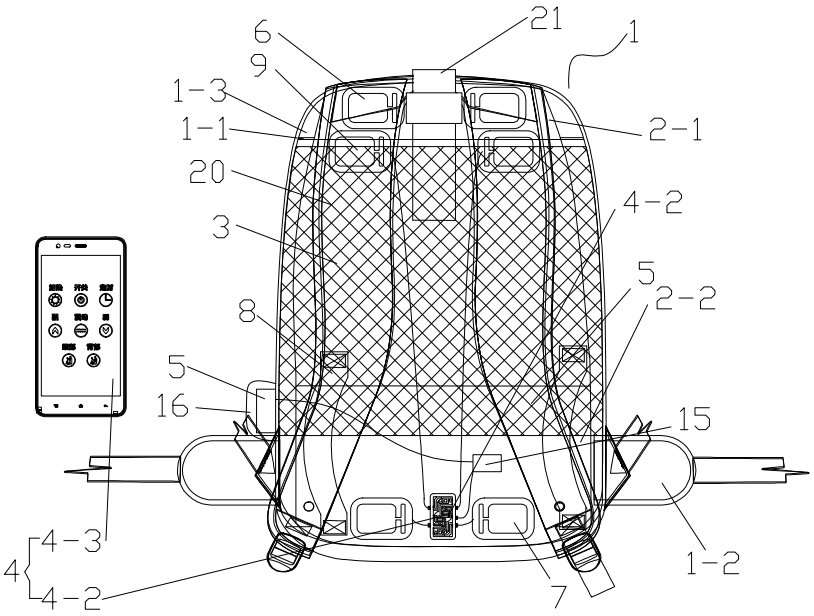
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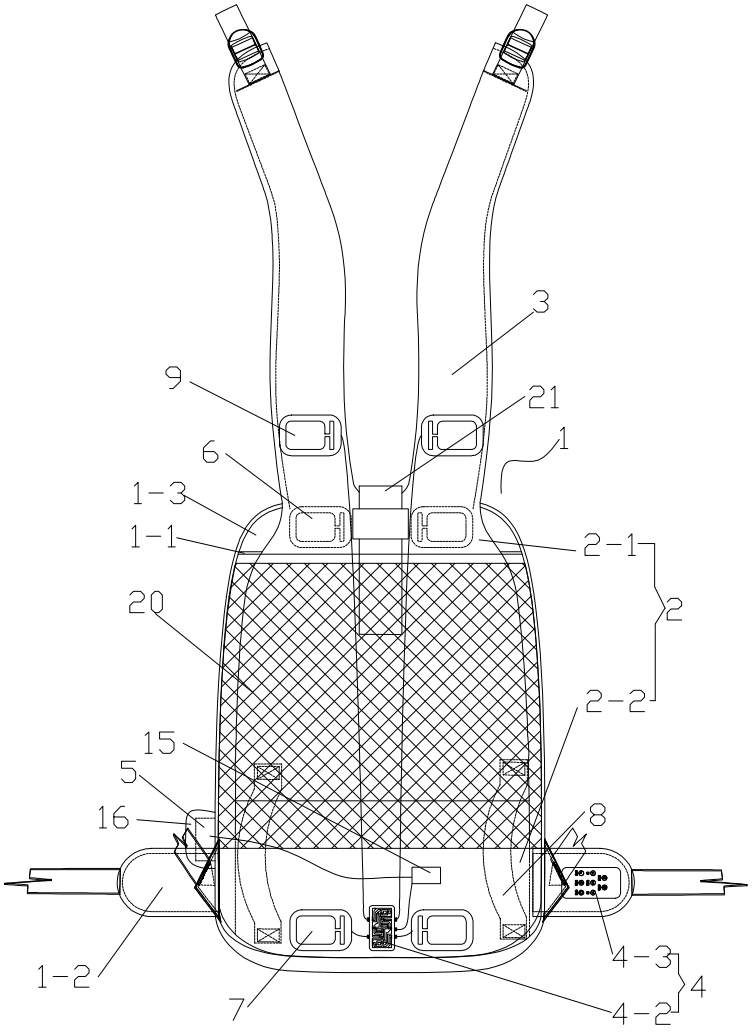
图7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4-2

图8

说 明 书 附 图

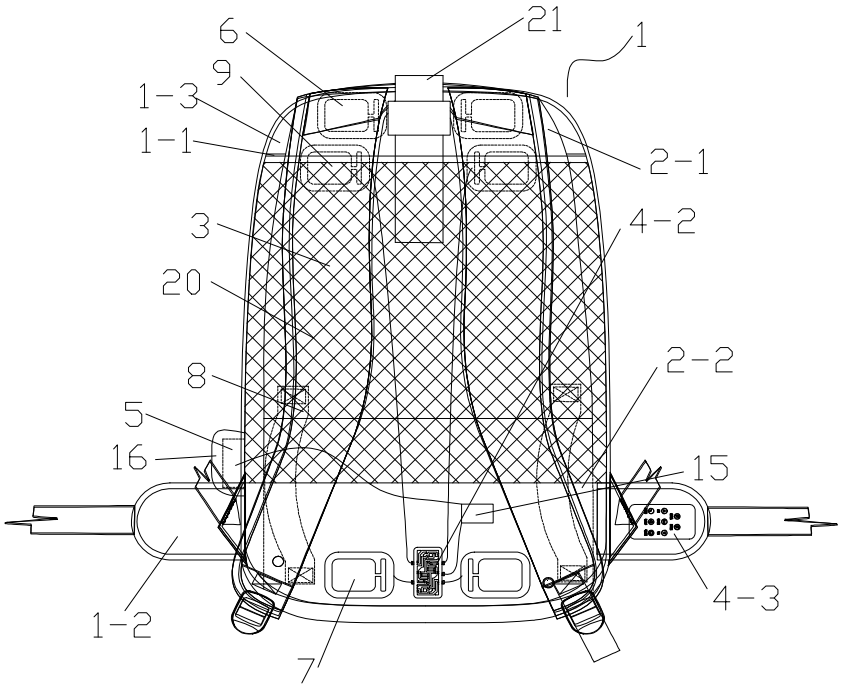
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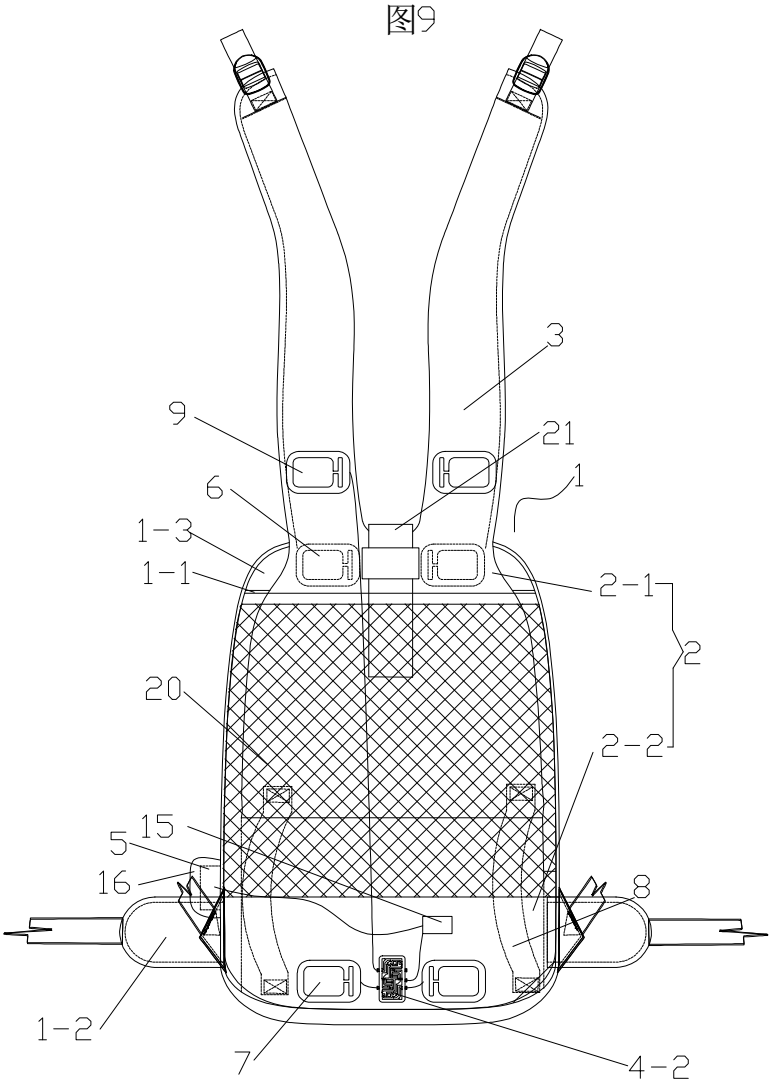
图9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1-2
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4-2

图10

说 明 书 附 图

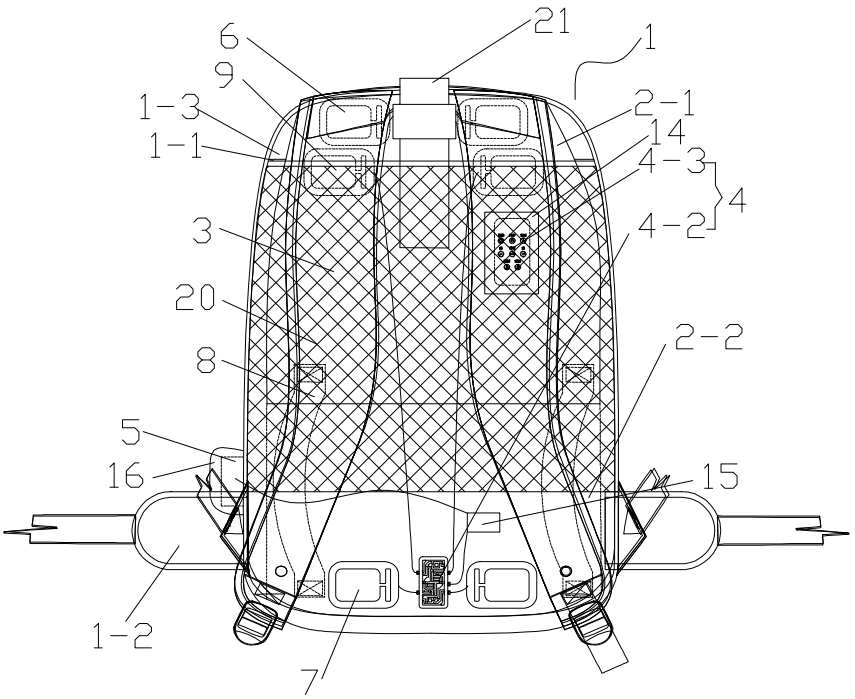

图11

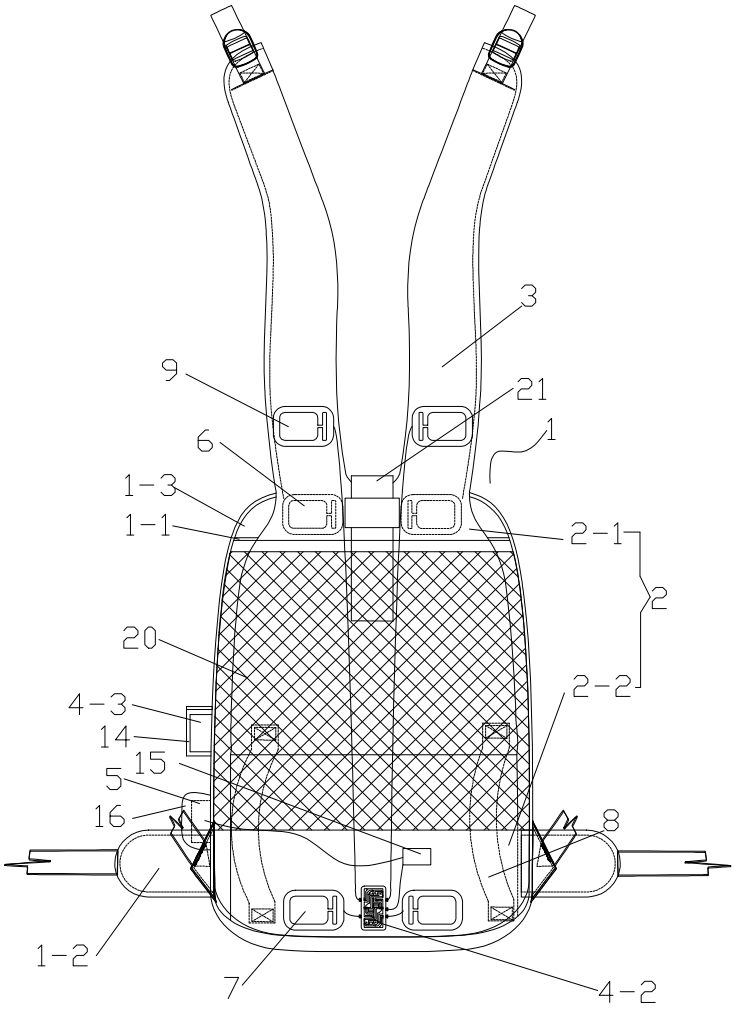

图12

说 明 书 附 图

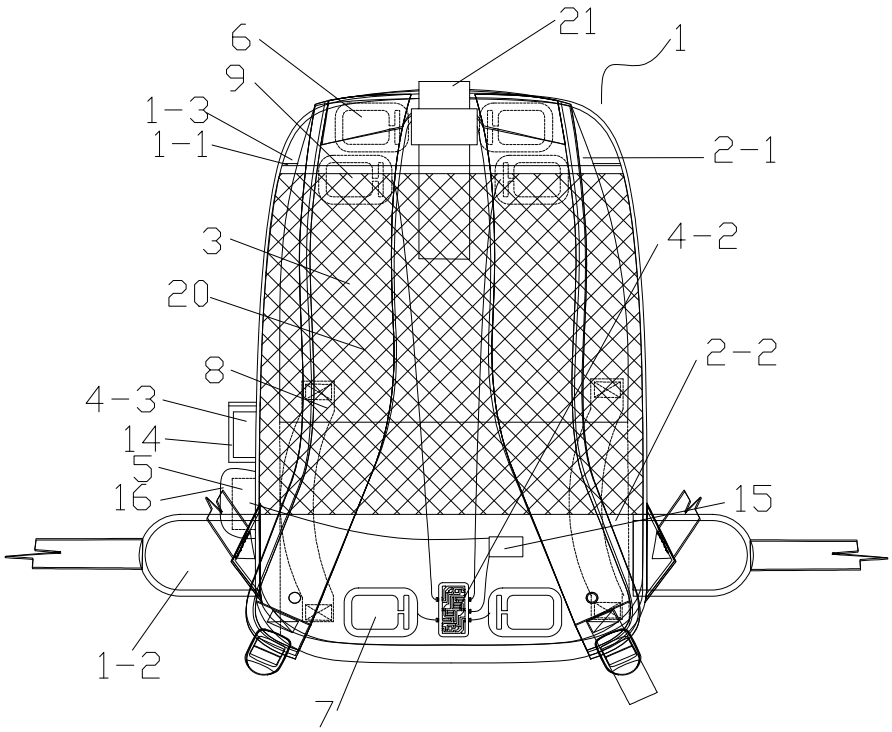

图13

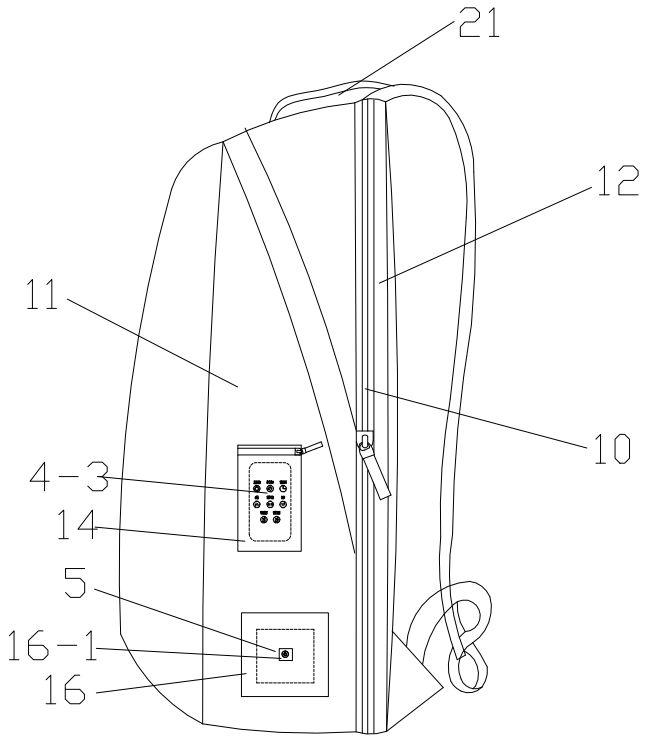

图14

说 明 书 附 图

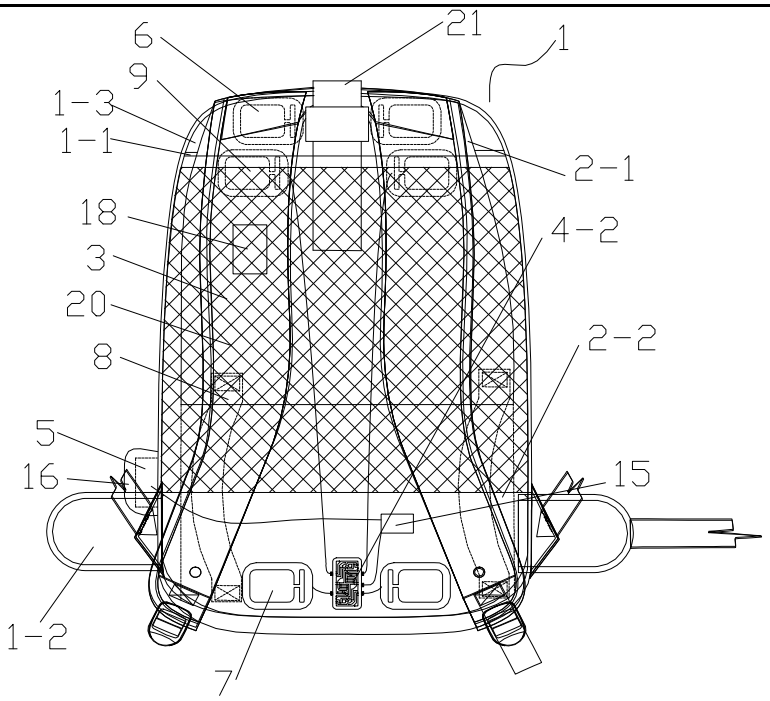

图15

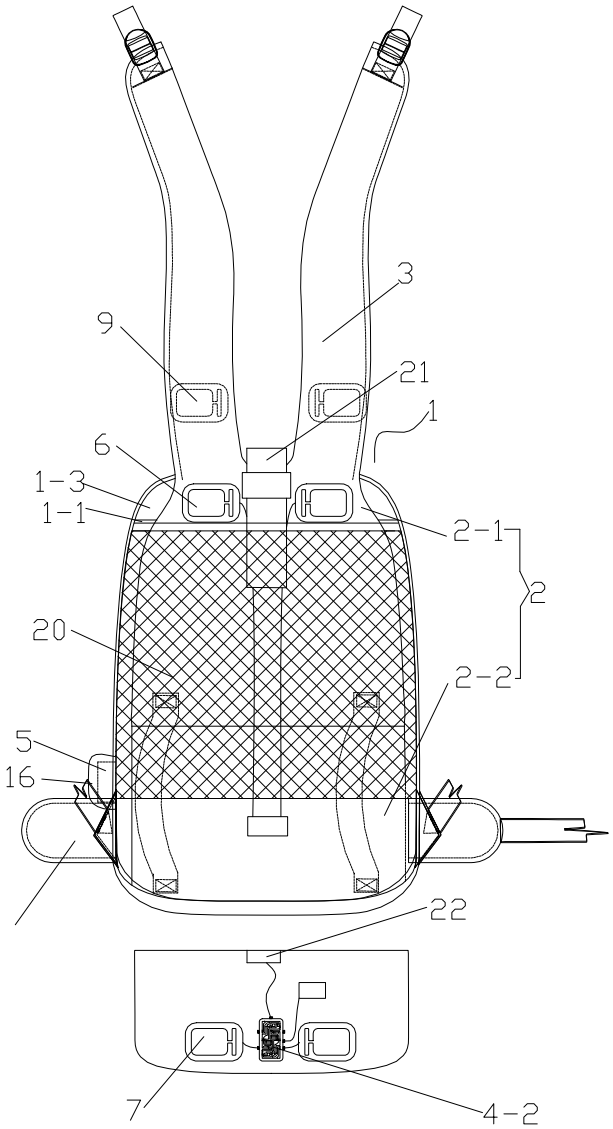

图16

说 明 书 附 图

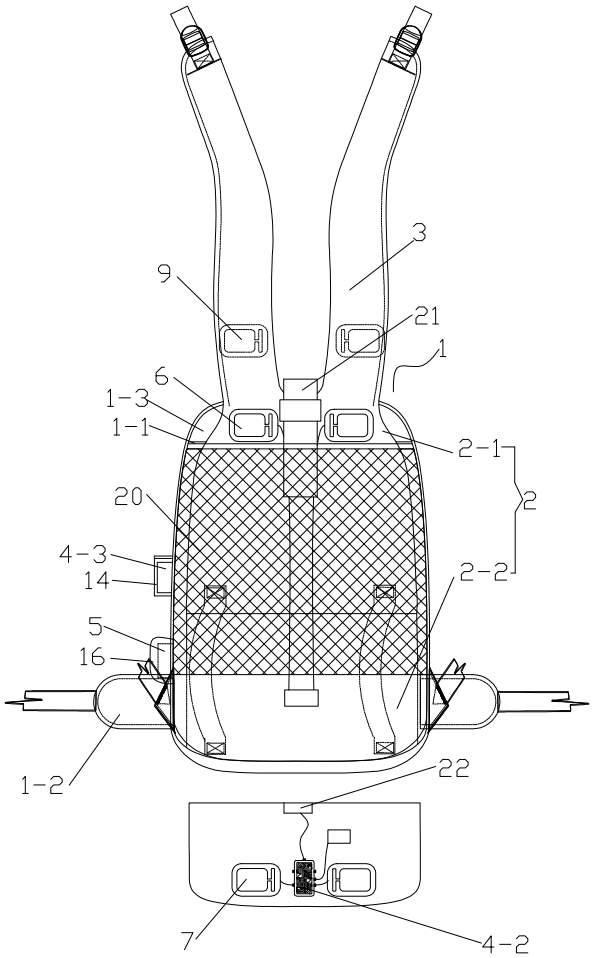

图17

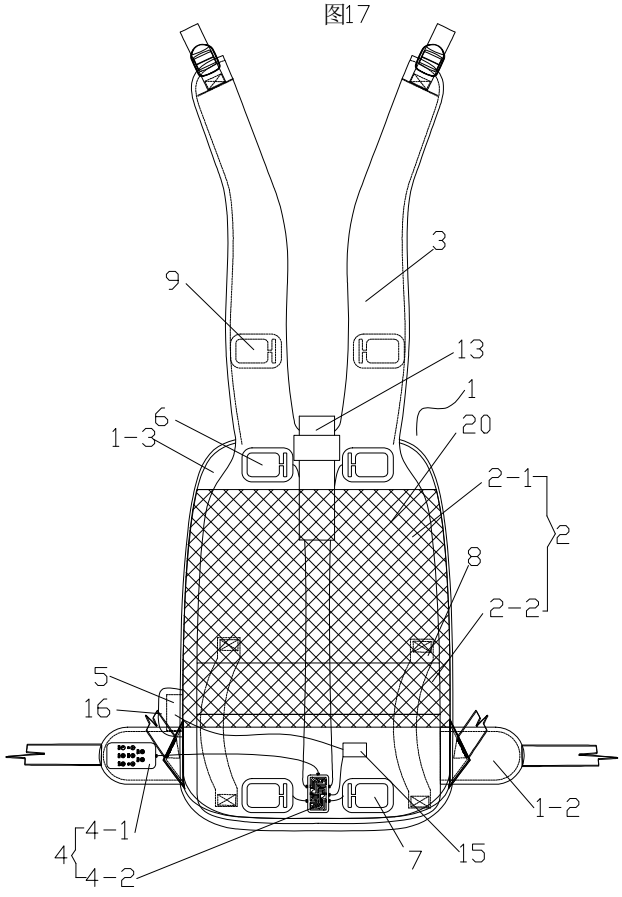

图18

说 明 书 附 图

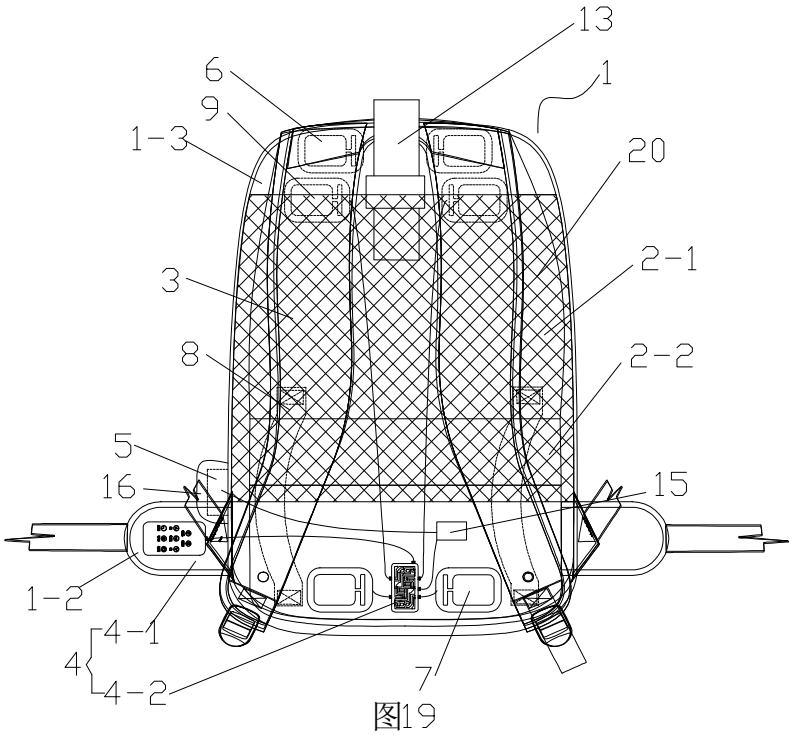

图19

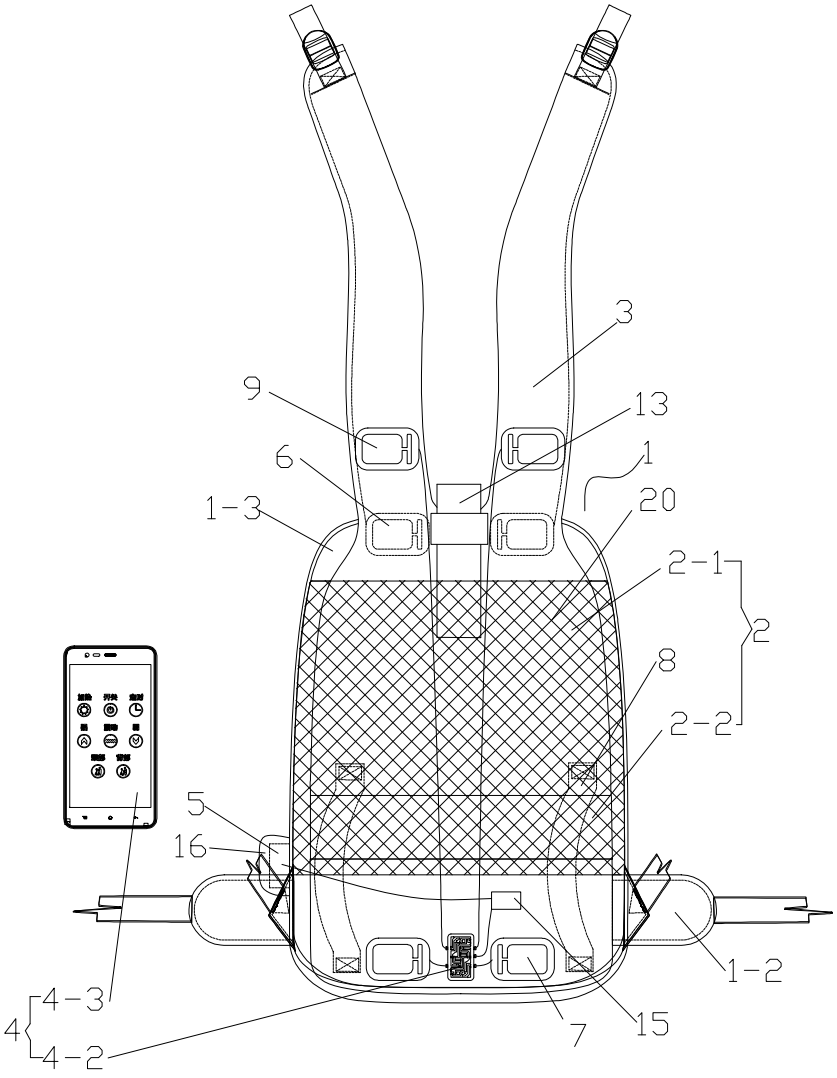

图20

说 明 书 附 图

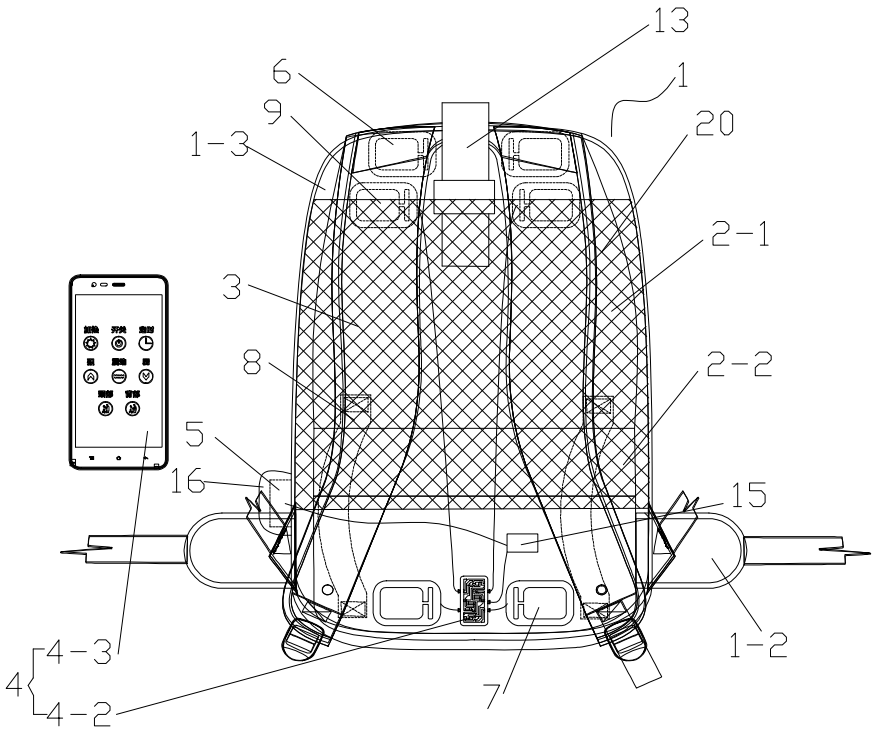

图21

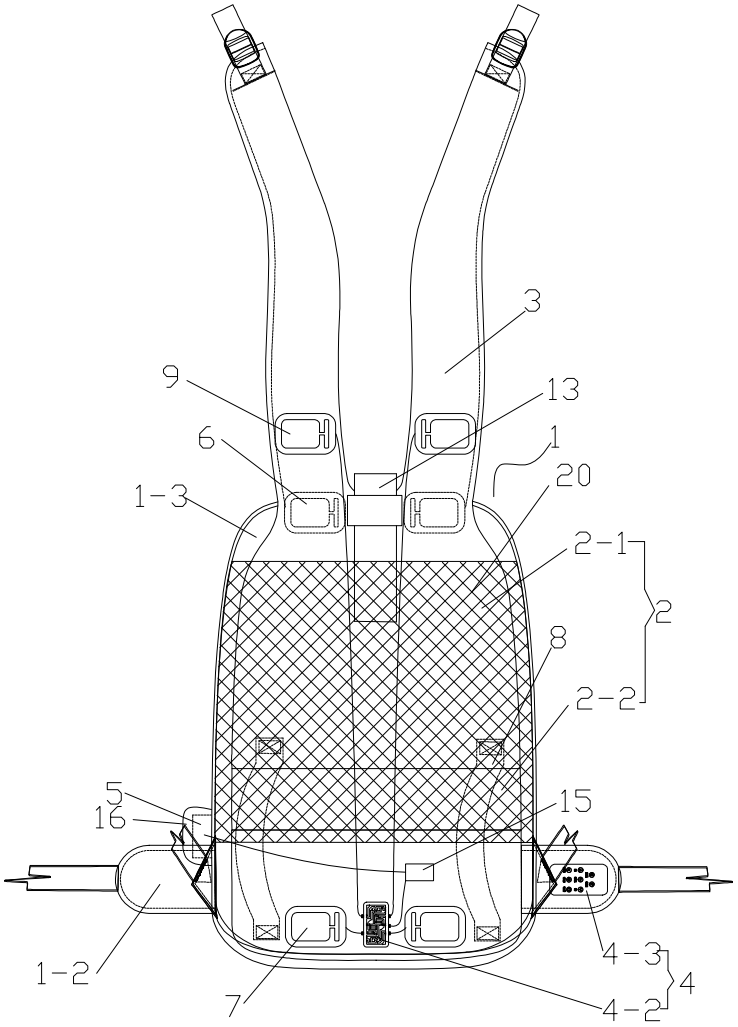

图22

说 明 书 附 图

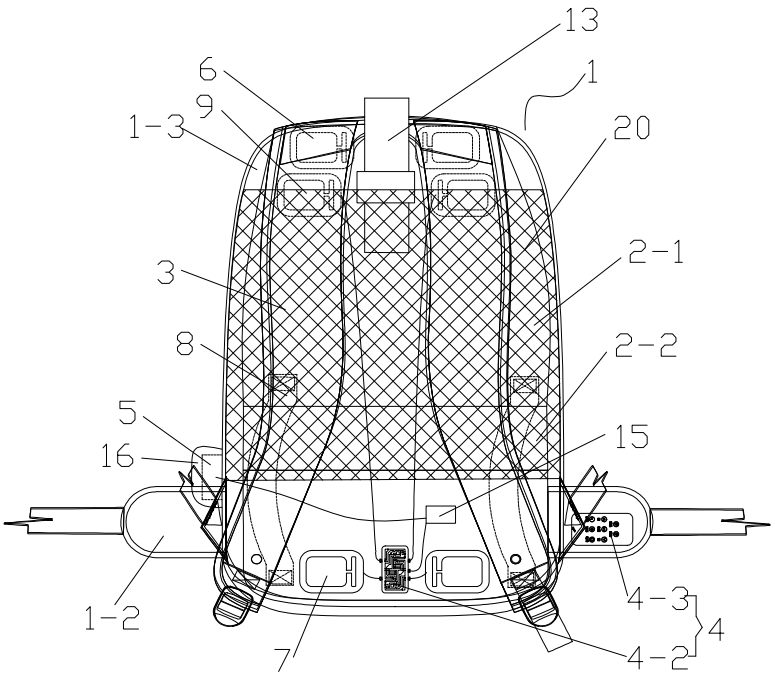

图23

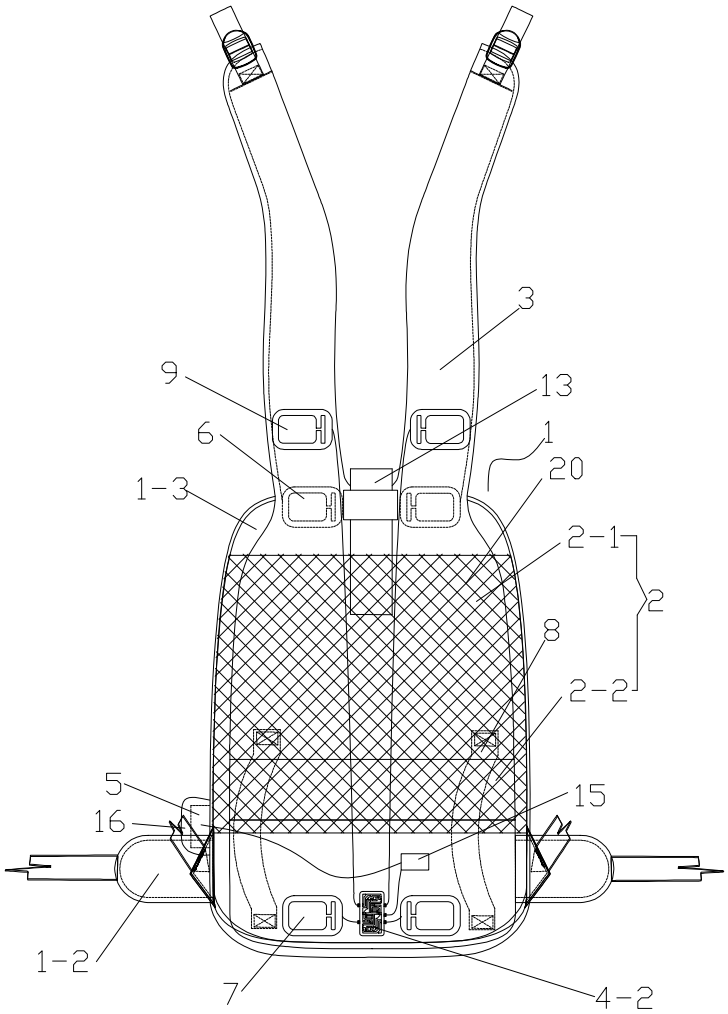

图24

说 明 书 附 图

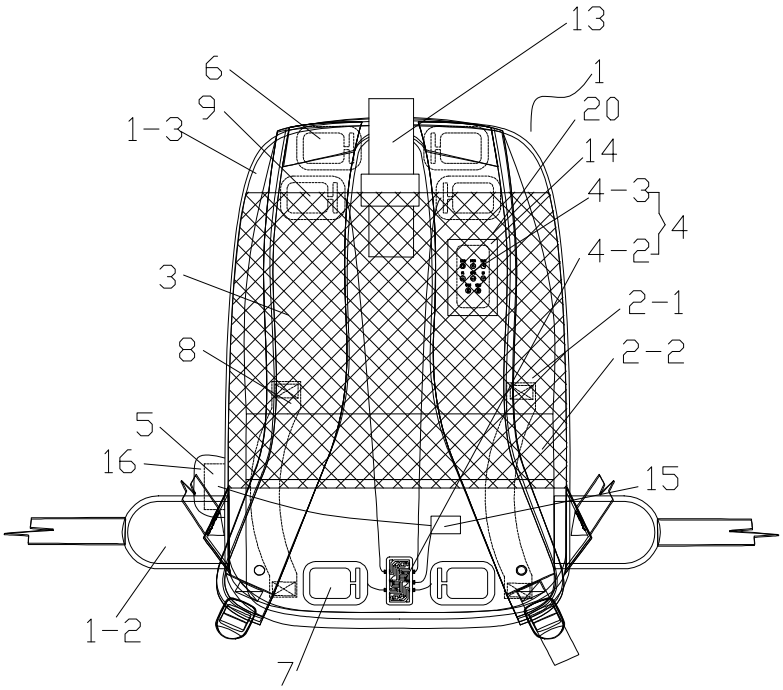

图25

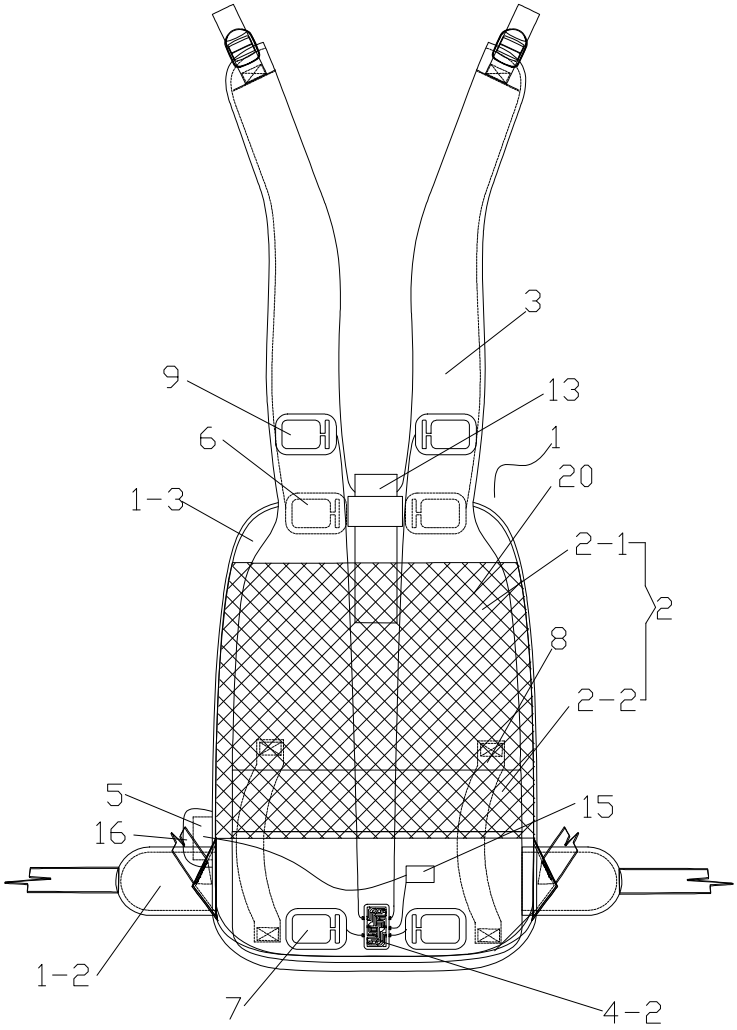

图26

说 明 书 附 图

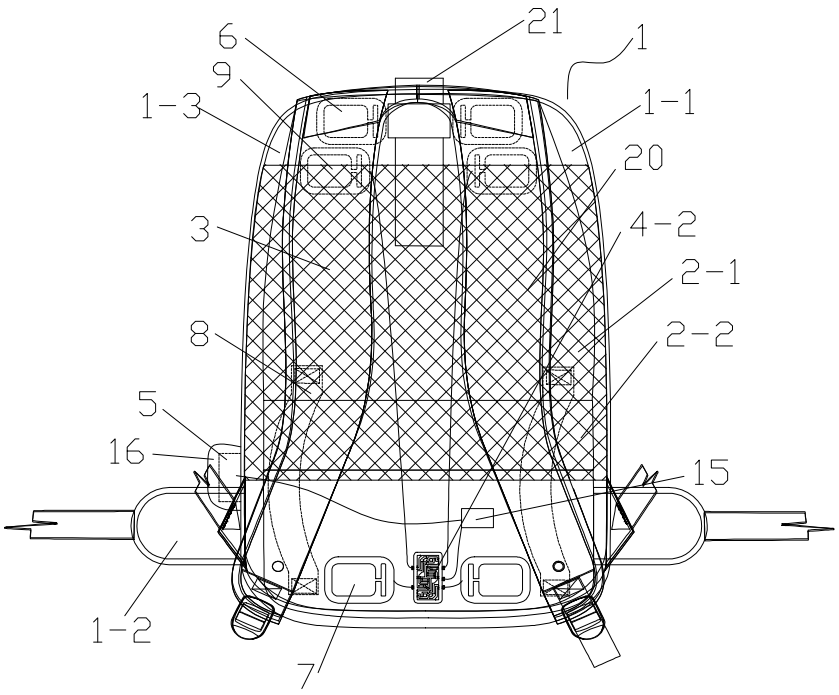

图27

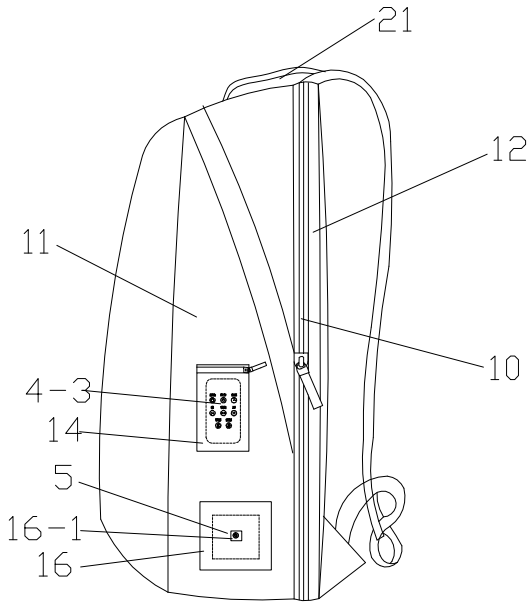

图28

说 明 书 附 图

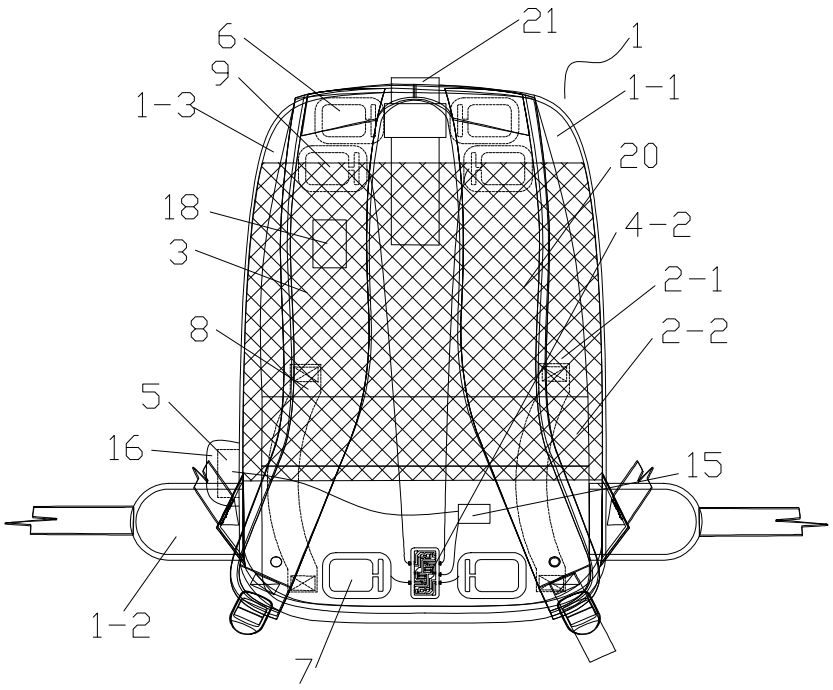

图29

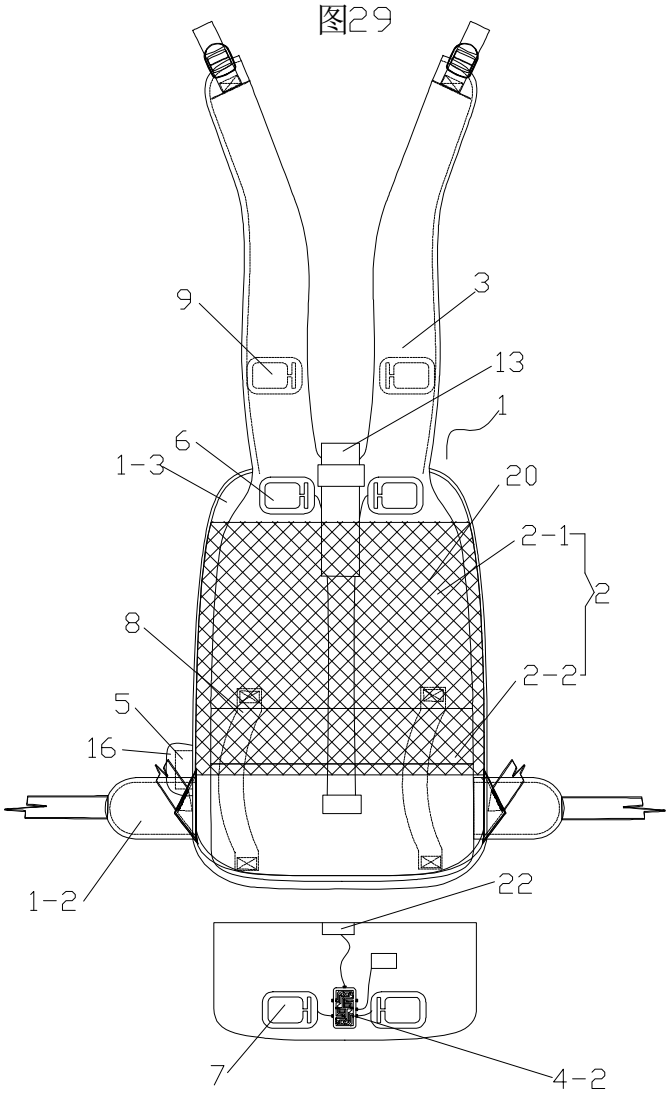

图30

说 明 书 附 图

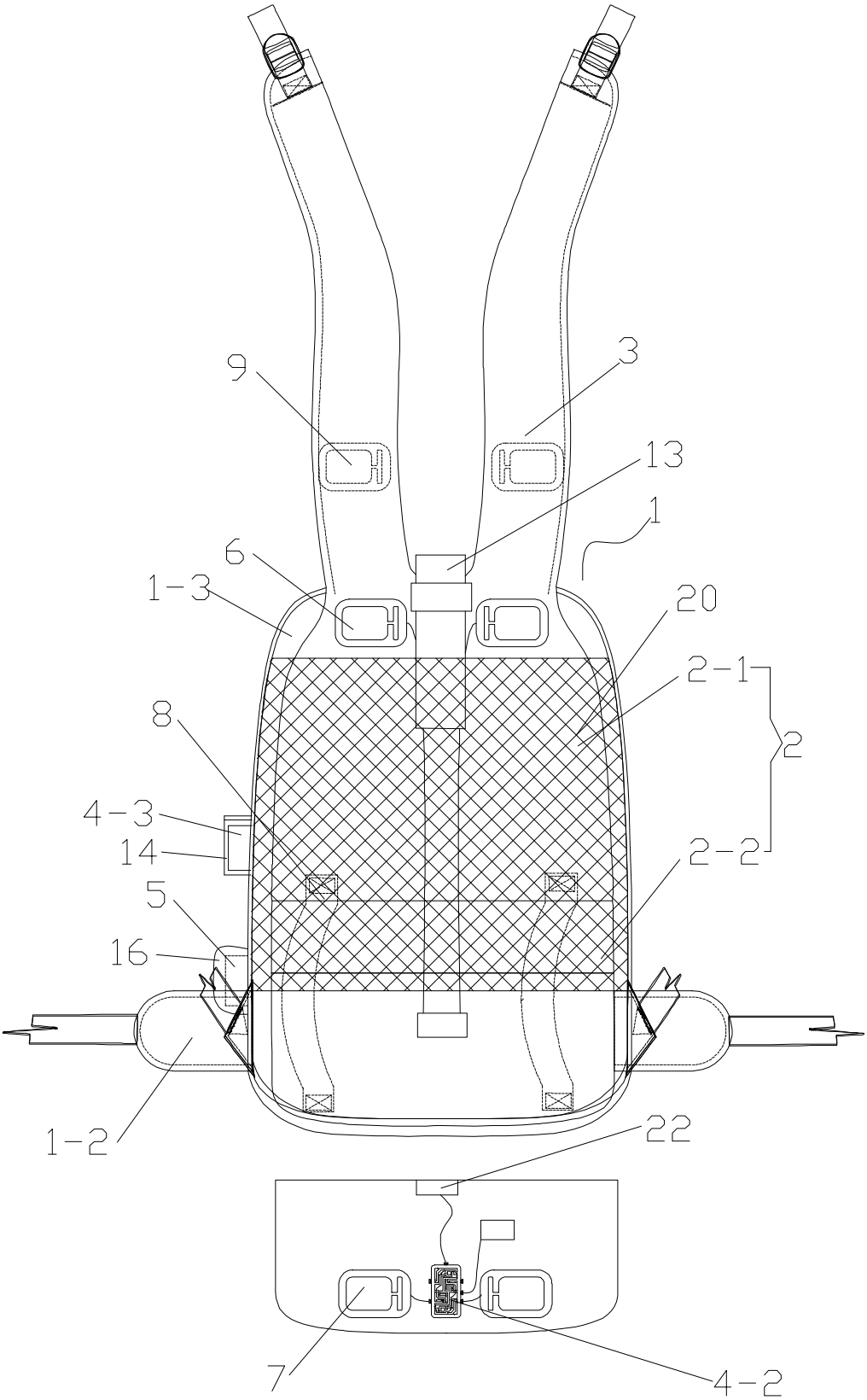

图31

说 明 书 摘 要

本发明涉及一种减负按摩背包，包括包体和背带，所述包体上贴近背部位置设有一个上部具有开口的夹层，该夹层内设有一具有弹性的固定片层，所述固定片层的下端固定在夹层的底部，上端可由开口伸出且与背带固定连接，所述包体背部贴近腰部、按摩装置。该发明克服了现有背包不具有按摩功能以及市售的按摩器只能单独按摩腰部、肩部或背部，无法在背包的同时满足按摩的需求的缺点，其在背包上设置具有弹性的固定片层，且在固定片层上设置能对腰部、肩部、背部进行按摩的按摩装置，使得在使用背包同时能对一个或多个部位进行按摩，且能根据使用者需要调整按摩位置，甚至根据需要还可将按摩装置拆卸下来单独使用，使用时非常灵活方便。

权 利 要 求 书

1、一种减负按摩背包，包括包体（1）和背带（3），其特征在于：所述包体（1）上贴近背部位置设有一个上部具有开口的夹层（1-1），该夹层（1-1）内设有一具有弹性的固定片层（2），所述固定片层（2）的下端固定在夹层（1-1）的底部，上端可由开口伸出且与背带（3）固定连接，所述包体（1）背部贴近腰部、固定片层（2）上贴近背部或者背带（3）上贴近肩部的任一位置或任意几个位置设有按摩装置。

2、根据权利要求 1 所述的减负按摩背包，其特征在于：所述固定片层（2）的顶部还通过第一限位带（21）与包体（1）的顶部相连接。

3、根据权利要求 1 所述的减负按摩背包，其特征在于：所述固定片层（2）包括依次自上而下相连接的上片（2-1）和下片（2-2），下片（2-3）底端连接在夹层（1-1）底部，上片（2-1）露出夹层（1-1）开口，下片（2-2）为弹性材料，背带（3）通过上片（2-1）与固定片层（2）相连接。

4、根据权利要求 3 所述的减负按摩背包，其特征在于：所述上片（2-1）底部通过第二限位带（8）连接在夹层（1-1）底部，且该第二限位带（8）的长度大于下片（2-2）纵向的长度以对上片（2-1）的上下移动起限位作用。

5、根据权利要求 1 所述的减负按摩背包，其特征在于：所述按摩装置包括至少一个按摩机构、用于控制按摩机构工作的控制电路（4），所述控制电路（4）还设有用于连接给控制电路（4）和按摩机构供电的外接电源的电源连接线。

6、根据权利要求 5 所述的减负按摩背包，其特征在于：所述按摩装置还包括第一电源（5），所述控制电路（4）和第一电源（5）均设在包体（1）上，第一电源（5）分别给控制电路（4）和按摩机构供电。

7、根据权利要求 5 所述的减负按摩背包，其特征在于：所述按摩机构包括至少一个第一按摩头（6），所述第一按摩头（6）固定设置在固定片层（2）顶端且对应背部的位置。

8、根据权利要求 5 所述的减负按摩背包，其特征在于：所述按摩机构包括至少一个第二按摩头（7），所述第二按摩头（7）固定设置在包体（1）背部底端且对应在腰部的位置。

9、根据权利要求 5 所述的减负按摩背包，其特征在于：所述按摩机构包括至少一个第三按摩头（9），每个第三按摩头（9）固定设置在一个背带（3）上靠近固定片层（2）的一端部，且当使用背带（3）背包时对应在肩部位置。

10、根据权利要求 5 所述的减负按摩背包，其特征在于：所述控制电路（4）

包括控制面板（4-1）以及用于接收控制面板（4-1）发出的指令并根据该指令控制按摩机构工作的控制电路主板（4-2），控制电路主板（4-2）设在包体（1）内，控制面板（4-1）设在背包上的任意位置，控制面板（4-1）通过电线与控制电路主板（4-2）相连接。